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INSTRUCTOR IN FREE-HAND DRAWING AND MUSIC.

MISS LOU C. ALLEN,
INSTRUCTOR IN DOMESTIC SCIENCE.

ALEXANDER C. SWARTZ,
ASSISTANT IN ARCHITECTURE AND MATHEMATICS.

JAMES KENIS,
INSTRUCTOR IN CLAY MODELLING AND ARCHITECTURAL
ORNAMENTATION.

IRA O. BAKER,
ASSISTANT IN CIVIL ENGINEERING AND PHYSICS.

MISS JENNIE C. BRYANT,
INSTRUCTOR IN ELOCUTION.

ELNA A. ROBINSON,
ASSISTANT IN MECH. ENG. AND FOREMAN OF MACHINE SHOP.

CHARLES I. HAYS,
ASSISTANT IN HORTICULTURE AND BOTANY.

MELVILLE A. SCOVELL,
ARTHUR E. BARNES,
JOHN M. STAYMAN,
ASSISTANTS IN CHEMICAL LABORATORY.

FERNANDO A. PARSONS,
INSTRUCTOR IN BOOK-KEEPING.

EDWIN L. LAWRENCE,
HEAD FARMER.

VANTILE W. CODINGTON,
FOREMAN OF CARPENTER SHOP.

LIST OF STUDENTS.

EXPLANATION.

The figures after the names indicate 1st, 2d, 3d, and 4th year students. The courses of studies are indicated as follows: Mil., Military; Ag'l., Agricultural; Hor., Horticultural; M. E., Mechanical Engineering; C. E., Civil Engineering; Min. E., Mining Engineering; Arch., Architecture; Nat. His., Natural History; Chem., Chemistry; L. & S., Literature and Science; Com., Commercial; B. C., Builder's Course; D. S. & A., Domestic Science and Art; Elec., Elective.

RESIDENT GRADUATES.

BARNES, ARTHUR E.....Chem.....Champaign.
 BROWN, RALPH L.....L & SMarengo.
 CODINGTON, VANTILE WM....Arch.....Menomonee, Wis.
 McCAULEY, JOHN CHARLES...L & S.....Defiance, Ohio.
 MULLER, JOHN.....L & S.....Wurtcmberg, Ger.
 SCOVELL, MELVILLE A.....Chem.....Champaign.

UNDER-GRADUATES.

GENTLEMEN.

NAMES.	YEAR.	COURSE.	P. O. ADDRESS.
ABBOTT, THEODORE SPERRY...	3	Min. E.....	Union Grove.
ADAMS, CLARENCE G.....	4	Ag'l....	Champaign.
ALLEN, RALPH.....	4	Ag'l.....	Delevan.
ALLEN, CHARLES WESLEY.....	3	Ag'l.....	Harristown.
ALLEN, ROBERT C.....	1	L. & S.....	Gilman.
ANDERSON, JACOB W.....	3	M. E. & Arch.	Ladoga, Ind.
ATHERTON, BYRON J.....	2	M. E.....	Villa Ridge.
ALLEN, ARTHUR C.....	1	B. C.....	Lena.
ADAMS, FRANK E.....	1	L. & S.....	Peoria.
BAKER, CARROLL.....	3	Ag'l.....	Tuscola.
BAKER, EDDIE J.....	2	Ag'l.....	Savoy.
BAKER, SELBY S.....	1	B. C.....	Chebanse.
BALLARD, FRANK EDWARD....	2	Arch.....	Chicago.
BALLARD, CHARLES K.....	2	Arch.....	Chicago.
BALLOU, EDWARD LULL.....	4	M. E.....	Sherwood, Wis.

BALCOM, WILLIAM ARTHUR...	1	Arch.....	Champaign.
BARRY, CHARLES HART.....	3	L. & S. & Mil.	Alton.
BARRY, FRANK.....	2	L. & S. & Mil.	St. Louis, Mo
BAILEY, WILLIAM J.....	3	L. & S. & Mil.	Argo.
BEARDSLEY, HENRY MAHAN...	1	L. & S.....	Champaign.
BARLOW, ABNER L.....	1	L. & S.....	Dixon.
BENNETT, GRANVILLE J.....	1	Ag'l.....	Argo.
BENNETT, LYNN C.....	2	Chem.....	Pontiac.
BEST, WESLEY ERASMUS.....	2	Com. & Mil..	Litchfield.
BLAKESLEE, GEORGE F.....	1	M. E.....	DuQuoin.
BLAKESLEE, ELI T.....	1	Elec.....	DuQuoin.
BISHOP, DAVID MILTON.....	1	L. & S.....	Godfrey.
BOOTH, CHRISTOPHER STEPHEN.	1	L. & S.....	Columbus.
BOURNE, HARRY P.....	2	C. E.....	Woodstock.
BOYD, FRANK.....	1	Com.	Mattoon.
BRILES, BYARD S.....	1	Ag'l.....	Ash Grove.
BRIDGE, WALLACE E.....	2	Ag'l. & Mil..	LaMoille.
BOYERS, S. E.....	1	L. & S.....	Mt. Carroll.
BROWN, FRANK L.....	1	L. & S.....	Good Hope.
BRANNEN, DENNIS JAMES.....	2	Com.....	Savoy.
BROWN, HENRY A.....	1	Chem.....	Dixon.
BRUSH, CHARLES E.....	3	Arch.....	Carbondale.
BRYAN, ORVILLE GRANT.....	1	Ag'l.....	Xenia.
BURNAP, HENRY T.....	1	Chem.....	Alton.
BURGESS, CLARK M.....	1	Elec.....	Bennett.
BURNHAM, JAMES E.....	1	M. E.....	Mason City.
BUCKINGHAM, WILLIAM.....	3	M. E. & Mil.	Chicago.
BUCKINGHAM, ROSWELL H.....	1	M. E.....	Chicago.
BUTLER, WILLIAM NICHOLS...	1	L. & S. & Mil.	Anna.
BUTLER, CYRUS WALDO.....	1	C. E. & Mil..	Anna.
BUTTERFIELD, A. M.....	1	Ag'l.....	Champaign.
BLACKALL, CLARENCE H.....	3	Arch. & Mil.	Chicago.
BUMSTEAD, JAMES E.....	3	L. & S.....	Marengo.
BURR, ELLIS MERTON.....	2	M. E.....	Woodstock.
BYRD, OLIVER WILSON.....	3	Com.....	Ladoga, Ind.
CAMPBELL, ROBERT H.....	3	L. & S.....	Mt. Carroll.
CAMPBELL, JAMES WILLIAM...	4	L. & S.....	Philo.
CASTLE, L. T.....	1	Chem.....	Upper Alton
CHANDLER, WALTER M.....	1	L. & S.....	Weldon.
CHANDLER, ERNEST M.....	1	Ag'l.. ..	Bourbon.
CHANDLER, WILLIAM BAYARD.	4	L. & S.....	Bourbon.
CHILDS, WILL M.....	1	C. E.....	Buda.
CLARK, WALLACE.....	1	Com.....	Homer.
CLAY, LUTHER G.....	4	Hort. & Mil..	Cobden.
CLARK, CHARLES WRIGHT....	4	C. E.....	Champaign.
COBURN, RALPH PORTER.....	2	M. E.....	Lyndon.
COFFMAN, NOAH B.....	3	Nat. His.....	Urbana.
CHESTER, HOMER WALDO.....	2	Ag'l.....	Champaign.
COFLIN, FRANK SHERMAN.....	2	L. & S.....	Taylorville.

COLLINS, WILBUR MILIN.....	1	L. & S.....	Knoxville, Iowa.
CONKLIN, ROLAND.....	1	L. & S.....	Champaign.
COWEN, ROY H.....	3	C. E. & Mil..	Champaign.
CONN, FRANK S.....	2	Chem.....	Urbana.
CONROY, JAMES.....	2	L. & S.....	Terre Haute, Ind.
COQUILLETT, GEORGE A.....	1	L. & S.....	Woodstock.
CULVER, LUCIAN M.....	2	Com.....	Henry.
CUMMINGS, ORLANDO W.....	1	Ag'l.....	Buda.
CROW, B. F.....	4	Arch.....	Woodbine, Iowa.
DAVIS, A. L			
DEAN, FRANK A.....	2	L. & S. & Mil.	Buckley.
DEAN, EZRA CARTER.....	2	L. & S.....	La Moille.
DENTON, CHARLES ALLEN....	1	L. & S.....	Hamilton.
DILLON, ABSOLEM W.....	1	Com.....	Tremont.
DOTY, FRANK V.....	1	L. & S.....	Middleton, Ohio.
DRAKE, JAMES FREDERIC....	4	L. & S.....	Belv'dere.
DUNLAP, FRANK.....	1	Com.....	Belmond, Iowa.
DURKIN, PETER.....	1	Nat. His.....	Metamora.
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EDSON, CHARLES BALLOU....	2	Com & Mil..	Galva.
ELLIOTT, CHARLES GLEASON..	3	C. E.....	Tonica.
ELLIOTT, J. K.....	1	L. & S.....	Wenona.
FAULKNER, RICHARD D.....			
FENITY, FRANK C.....	2	Chem....	Kalac.
FESSENDEN, ARTHUR L.....	3	M. E.....	Xenia, Ohio.
FISHER, GEORGE W.....	2	Com.....	Litchfield.
FLANSBURG, CLAUDE.....	2	L. & S. & Mil.	Galva.
FORSYTH, JAMES.....	1	M. E.....	Springfield.
FITZHUGH, WILLIAM H.....	1	Com.....	Delevan.
FREIJS, CHARLES THEODORE..	1	Arch.....	Urbana.
FRANCIS, FREDERICK.....	2	M. E.....	Kewanee.
FRACKELTON, DAVID S.....	1	L. & S.....	Petersburg.
GAFFNER, THEOPHILUS.....			
GARDNER, ALBERT O.....	1	Nat. His.....	East Lynn.
GILKERSON, HIRAM.....	3	Ag'l. & Mil...	Ney.
GILKERSON, JOHN.....	3	L. & S.....	Ney.
GILL, JOHN D.....	4	L. & S.....	Antwerp, N. Y.
GILLETTE, STEPHEN LOREN...3		L. & S. & Mil.	Aurora.
GIBSON, CHARLES BROCKWAY..	3	Chem. & Mil.	Springfield, Vt.
GARROD, JAMES A.....	2	Arch...	Champaign.
GOULD, HARRY C.....	2	C. E. & Mil..	Henry.
GORE, SIMEON T.....	4	Arch.....	Ashtley.
GRAVES, ERNEST W.....	1	Hort.....	Sandwich.
GREGORY, ALFRED.....	2	L. & S.....	Champaign.
GREGORY, CHARLES E....	4	L. & S.....	Rochelle.
GUNDER, JAMES HENRY.....	2	C. E.....	Fairmount.

HALLINEN, JOSEPH.....	1	L. & S.....	Champaign.
HALLETT, D. FRANK.....	3	L. & S.....	Mt. Carroll.
HANNAH, SAMUEL.....	3	L. & S.....	Rossville.
HANNAH, RICHARD HENRY....	4	Hort.....	Rossville.
HARRISON, SAMUEL A.....	1	L. & S.....	Alton.
HARTSHORN, WILLIAM HENRY	2	L. & S.....	Buckley.
HARDEN, EDGAR E.....	1	L. & S.....	Dixon.
HAUSER, HENRY.....	3	C. E. & Mil...	Mascoutah.
HALSEY, HERBERT B.....	1	L. & S.....	Dover, N. Jersey.
HATCH, F W.....	1	L. & S.....	English Prairie.
HENDREN, WILLIAM.....	2	M. E.....	Batesville, Ark.
HEWINS, CHARLES F.....	2	L. & S.....	Loda.
HIETT, GEORGE WASHINGTON.	3	Ag'l.....	Sugar Grove, Ind.
HINSDALE, F. D.....	1	C. E.....	Kewanee.
HOBBS, CHARLES ALBERT.....	1	L. & S.....	Mt. Vernon.
HOIT, OTIS WILLIS.....	1	Ag'l.....	Geneseo.
HODGEN, GEORGE IRVING.....	3	Com.....	Champaign.
HULL, EVELYN THOMAS.....	3	Hort.....	Alton.
IRWIN, RALPH J.....	2	L. & S.....	Mason City.
JACKSON, ARTHUR C.....	1	L. & S.....	Maroa.
JOHNSON, WILLIAM P.....	1	C. E.....	Chicago.
JOHNSON, FRED.....	3	C. E.....	Springfield, Vt.
JOHNSON, JOHN NELSON.....	1	Chem.....	Mt. Vernon.
JOHNSON, LAWRENCE LINCOLN.	1	Com.....	Urbana.
JOLLEY, ALBERT REMBRANDT.	3	L. & S. & Mil.	Cerro Gordo.
JONES, EUGENE L.....	1	Com.....	Henry.
JONES, JAMES F.....	3	L. & S.....	Chester.
JONES, HENRY R.....	2	Ag'l.....	Athens.
JUDD, FRANK W.....	1	L. & S.....	Dixon.
KAYS, EMERY.....	2	L. & S.....	Oxbow.
KENNEDY, ALLAN G.....	3	C. E. & Mil...	Eau Claire, Wis.
KINCAID, RICHARD YATES....	2	Ag'l.....	Athens.
KINCAID, LEE.....	1	Ag'l.....	Athens.
KINGSBURY, CHARLES SUMNER.	4	C. E.....	Medway, Mass.
KNIBLOE, WALTER E.....	4	Nat. Hist....	Gilman.
KNIGHT, PHILIP CHRISTOPHER	2	C. E.....	La Moille.
KUHN, ISAAC.....	1	C. E.....	Cleveland, Ohio.
KIMBLE, WILLIS P.....	1	C. E.....	Paris,
LAMSON, JOHN W.....	1	L. & S.....	Half Day.
LEE, ELISHA.....	1	Ag'l.....	Hamlet.
LEE, W. H.....	1	Ag'l.....	Millersburgh.
LEE, EDDY ORLANDO.....	3	L. & S.....	Mt. Carroll.
LEWIS, EDWARD V.....	3	Ag'l. & Mil...	Chatham.
LEWIS, JOHN C.....	2	L. & S. & Mil.	Roseville.
LEWELLIN, JOSEPH C.....	3	Arch.....	Sterling.
LINDLEY, AUSTIN M.....	2	Chem.....	Urbana.
LLOYDE, FRANK HAYDEN.....	2	L. & S.....	Champaign.
LUCAS, JOHN A.....	1	L. & S.....	Champaign.

MACKAY, DANIEL G.....4	L. & S.....Mt. Carroll.
MACKAY, HENRY.....4	L. & S..... " "
MACKAY, WILLIAM A.....4	L. S. & Mil... " "
MAHAN, HENRY WESTON....4	L. S. & Mil..Champaign.
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McPHERSON, JOHN JR.....3	C. E.....Rockford.
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MUELHEIMS, ROBERT.....1	Chem. & Mil..Nashville.
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NESS, JOSEPH.....3	L. & S.....Hoopston.
NOBLE, LOUIS REEDER.....4	M. E. & Mil..Mattoon.
NICOLET, CHARLES H.....1	L. & S.....Champaign.
NORRED, FENTON MERCER....1	Ag'l.....Dawson.
NUSSBAUMER, J. J.1	Chem.....Nashville.
OLIVER, WILL FORREST.....4	L. S. & Mil...Ladoga, Ind.
PAGE, ANDREW ORVILLE....2	Ag'l.....Champaign.
PALMER, FRANK MITCHELL..4	C. E. & Mil..Clinton.
PATCHEN, JOHN W.....2	Com.....W.Bloomfield,N.Y.
PATTERSON, WM. FREMONT...2	L. & S.....Mt. Carroll.
PARKER, TWEED W.....1	Com.....Cairo.
PFEIFFER, WILLIAM A.....1	N. H. & Mil..Rantoul.
PERVIER, CLAYTON, C.....1	Com.....Mineral.
PERCIVAL, CURTIS E.....1	Ag'l.....Champaign.
PHILLIPS, W. H.....1	L. & S.....Litchfield.
PHILIPS, RICHARD.....3	Com.....Rantoul.
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PORTERFIELD, GEORGE K.....2	L. S. & Mil...Mendota.
PORTERFIELD, EMMET.....3	Ag'l.....Sidney.
PRETTYMAN, B. STOCKLEY JR.1	L. & S.....Pekin.
RALEY, CHARLES R.....1	Ag'l.....Granville.
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REED, LOUIS A.....1	L. & S.....Mason City.
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RHODES, JOSEPH WILLIAM....3	C. E.....Dwight.
RICE, GEORGE CLARK.....3	L. & S.....Fithian.
RICHARDS, CHARLES L.....2	Ag'l.....Woodstock.
ROBINSON, A. F.....1	Min. E.....Maroa.
ROSS, JOSEPH LAINES.....2	Ag'l.....Macomb.
RUDY, WILLIAM D. O.....2	Chem. & Mil.Mattoon.
RUSSELL, CHARLES MORTIMER.2	L. & S.....Urbana.
RUTAN, ABRAM R.....3	L. & S.....Dwight.
SABIN, EUGENE F.....1	Com.. ..Belvidere.
SACKETT, JOHN WARREN.....1	L. & S.....Rantoul.
SAFFORD, A. B.....1	L. & S.....Crete.
SAFFORD, JOHN T.....1	Ag'l.... ..Hamilton.
SARGENT, I. C.....2	L. S. & Mil...Rockford.
SAWYER, HAMLIN W.....2	L. S. & Mil...Godfrey.
SAWYER, JOHN Y.....2	Arch. & Mil... “
SAVAGE, MANFORD.....2	L. & S.....Girard.
SAVAGE, GEORGE MARVIN....1	L. & S..... “
SCHMELTZER, J. FOSTER.....1	C. E.....Manteno.
SCOTT, HERBERT W.....1	Com.....Sheffield.
SCRIBNER, ARTEMUS COFFIN..4	Ag'l.....Bradford.
SEYMOUR, JOHN JAMES,.....3	C. E. & Mil..Seymour.
SIM, COLER LINDLEY.....3	Chem. & Mil.Urbana.
SMITH, HERBERT O.....1	Ag'l.....Dixon.
SNYDER, FRANK AUGUSTUS...2	L. & S.....Galva.
SHELDON, CLARENCE C.....2	L. & S.... ..Urbana.
SPARKS, HOSEA B.....2	L. S. & Mil...Alton.
SPENCE, WILLIAN WRIGHT...2	L. & S.....Hamilton.
SPENCE, FRANKLIN.....3	L. & S.....Hamilton.
SPITLER, JEFFERSON D.....1	L. & S.....Todd's Point.
SPRADLING, WILLIAM F.....2	L. & S.....Sheridan.
SPRAGUE, MARTIN.....2	L. & S. Mil...Monticello.
STALEY, CALVIN C.....4	L. & S.....Champaign.
STANTON, SAMUEL CECIL....4	N. H. & Mil...London, Eng.
STAYMAN, JOHN MATHER....3	M. E.....Champaign.
STARR, FRANK A. E.....4	L. S. & Mil...Elsah.
STACY, MORRELL M.....1	Chem.....Princeton.
STEVENS, GEORGE H.....1	L. & S.....Sheffield.
STEVENSON, GEORGE H.....1	L. & S.....Neponset.
STEWART, WILLIAM J.....1	Com.....Colona.

STEWART, CHARLES EVANS...4	C. E. & Mil...Champaign.
STEWART, ARTHUR ROBINSON.1	Ag'l.....Champaign.
STICKLE, WILLIAM HENRY...2	Ag'l.....Macomb.
STODDARD, IRA J. JR.....3	C. E. & Mil..Pella, Iowa.
STOOKEY, DANIEL WESLEY...4	M. E.....Harristown.
STUDLEY, CHRISTOPHER C....1	L. & S.....Neponset.
STULL, WILLIAM.....4	L. & S.....Marengo.
STULL, LOUIS.....3	L. & S.....Marengo.
SUTHERLAND, EDMUND W....1	C. E.....Holder.
SWANNELL, ARTHUR.....1	L. & S.....Kankakee.
TAFT, LORADO.....1	Nat. His.....Champaign.
TAYLOR, CHARLES B.....1	L. & S.....Urbana.
TOMLINSON, J. J.....2	Elec.....Magnolia.
TOWER, GEORGE W.....2	Ag'l.....Sycamore.
TOWER, GEORGE D:.....2	L. & S.....Mendota.
VIAL, ELY JOHN.....1	Ag'l.....Manteno.
VAUMER, J. M.....	
WAGGONER, EUGENE L.....1	L. & S.....Godfrey.
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WATERS, FRANK P.....1	L. & S.....Lexington
WARD, WALTER P.....3	L. & S.....Terre Haute.
WARRINGTON, GEORGE.....3	M. E.....Chicago.
WEED, MAHLON 'OGDEN.....2	Chem.....Belvidere.
WEEMS, WILLIAM L.....1	L. & S.....Quincy.
WESTON, CHARLES.....4	L. & S.....Champaign.
WHITHAM, ROBERT F.....4	C. E. & Mil..Fairfax, Iowa.
WHITE, W. WOODS.....2	L. S. & Mil...Atlanta, Ga.
WHITLOCK, JOHN F.....3	L. S. & Mil...Dwight.
WHITMIRE, CLARENCE L....1	N. H. & Mil...Metamora.
WHITON, ARTHUR L.....1	Ag'l.....Chicago.
WILD, GEORGE A.....4	C. E. & Mil...Marengo.
WILLIAMS, WALTER L.....2	Ag'l.....Argenta.
WILLIAMS, THOMAS T.....4	L. & S...Sterling.
WILLIAMS, FREDERICK A....2	Ag'l.....Montrose, Iowa.
WILLIAMS, GEORGE A.....2	Ag'l.....Quincy.
WILSON, CHARLES M.....3	M. E.....Mackinaw.
WOOD, FREDERIC LANSING....4	L. S. & Mil...Chicago.
WOOD, JOHN H.....1	Com.....Cairo.
WRIGHT, M. J.....3	L. & S.....Woodstock.
ZELLER, GEORGE ANTHONY...3	Chem.....Spring Bay.
ZIESING, RICHARD.....1	Elec.....Peru.
ZIESING, AUGUST.....2	C. E. & Mil..“
ZIMMERMAN, HENRY W.....2	C. E.....“

LADIES.

ADAMS, NETTIE.....	3	L. & S.....	Urbana.
AYERS, LETTIE.....	3	L. & S.	Urbana.
BACON, KATHARINE J.....	1	L. & S.....	Champaign.
BARBER, MARGARET.....	1	L. & S.....	Milmine.
BATCHELDER, AUGUSTA.....	1	D. S. & A..	Harristown.
BATCHELDER, ABBIE W.....	1	D. S. & A..	Harristown.
BERGEN, LAVINIA.....	3	L. & S.....	Lilly.
BERNSTEIN, JOANNA.....	3	L. & S.....	Champaign.
BOGARDUS, EVA.....	3	L. & S.....	"
BROSHER, CORNELIA.....	3	L. & S.....	"
BROWN, FANNIE.....	1	L. & S.....	"
CARLEY, ISOTTA.....	3	L. & S.....	Champaign.
CHESTER, MINNIE A.....	1	L. & S.....	"
COLUMBIA, EMMA E.....	3	L. & S.....	"
CONDIT, ANNIE H.....	1	L. & S.....	"
CONN, EMMA ANNA.....	3	L. & S.....	"
CULVER, NETTIE.....	2	L. & S.....	Henry.
CUPPERNELL, JESSIE A.....	1	L. & S.....	Champaign.
CUSHMAN, GRACE.....	2	L. & S.....	Urbana.
DARNELL, MAY.....	1	L. & S.....	Rantoul.
DAVIES, ABBIE MAY.....	1	L. & S.....	New Lichmond, Ohio.
EATON, ADA.....	3	L. & S.....	Philo.
ESTEP, IDA.....	2	L. & S.....	Rantoul.
ESTEP, JESSIE.....	2	L. & S.....	"
FALLS, IDA BELL.....	3	L. & S.....	Champaign.
FISH, ALMIRA.....	1	L. & S.....	Franklin Grove.
FOX, MARY.....	1	L. & S.....	Champaign.
GENUNG, LOU.....	1	L. & S.....	Rantoul.
GIPSON, LILLIE F.....	1	L. & S.....	Champaign.
GRAHAM, BELLE.....	2	L. & S.....	"
GREEN, N. L.....	1		
GREGORY, HELEN B.....	3	L. & S.....	Champaign.
HALE, ISABELLA.....	1	D. S. & A..	Sheffield.
HOLSTED, CLARA.....	1	L. & S.....	Rantoul.
HAMMOND, MAY.....	1	L. & S.....	"
HAMMOND, EMILY.....	2	L. & S.....	"
HOLMES, MARY.....	1	L. & S.....	Loda.
HOLTON, MATTIE S.....	4	L. & S.....	Champaign.
HULLINGER, KATE.....	4	Nat His...	Rock Falls.
IVERS, MARY A. E.....	2	L. & S.....	Champaign.
JOHNSON, ETTA ANNA.....	3	L. & S.....	Champaign.
JOHNSON, NETTIE.....	1	L. & S.....	"
KIMBALL, AGNES M.....	1	L. & S.	Blivens Mills.

KIMBERLIN, NETTIE.....	2	D. S. & A..	Louisiana, Mo.
KINCAID, MATTIE.....	3	L. & S.....	Champaign.
LARNED, MARY SOFRONA.....	4	L. & S.....	Champaign.
LINDLEY, ALLIE V.....	1	L. & S.....	Urbana.
LLOYD, LOTTIE E.....	1	L. & S.....	Arcola.
LOW, LAURA T.....	1	L. & S.....	Chicago.
MAHAN, JENNIE C.....	3	L. & S.....	Champaign.
MAXWELL, EMILY C.....	3	L. & S.....	"
McELROY, MARY.....	1	L. & S.....	"
McALLISTER, NETTIE.....	1	L. & S.....	"
McFARLAND, IDA.....	1	L. & S.....	Rantoul.
McWILLIAMS, EMMA M.....	2	D. S. & A..	Bourbon.
MELENDY, ADA L.....	1	L. & S.....	Mt. Carroll.
MOFFET, PORTIA.....	1	D. S. & A..	Vancils Point.
MOFFET, ALETHA.....	1	L. & S.	" "
PAGE, BELLE.....	2	L. & S.....	Champaign.
PAGE, EMMA.....	2	L. & S.....	"
PAGE, MARY.....	2	Arch.	"
PAGE, MARTHA ELLEN.....	3	L. & S.....	"
PIATT EMMA C.....	3	L. & S.....	Monticello.
PIERCE, EFFIE F.....	2	L. & S.....	Belmond, Iowa.
PIERCE, CLARA E.....	2	L. & S.....	" "
POTTER, NELLIE.....	1	L. & S.....	Indianapolis, Ind.
RUDDICK, LILLIE R.....	1	L. & S.....	Seymour, Ind.
RUSSELL, ANNIE S.....	2	L. & S.....	Champaign.
SCOGGINS, SARAH.....	2	L. & S.....	Champaign.
SKINNER, ELLA V.....	3	L. & S.....	"
SMITH, AVICE E.....	3	L. & S.....	Union.
SOMERS, HATTIE.....	2	L. & S.....	Urbana.
SPENCE, JENNIE.....	2	Chem.....	Hamilton.
SPRUILL, S. C.....	2	L. & S.....	Urbana.
STATE, NELLIE.....	1	L. & S.....	"
STALEY, E.....	1	L. & S.....	Champaign.
STRONG, SARAH B.....	2	L. & S.....	"
SWITZER, GERTRUDE.....	3	Com.	"
THOMAS, ELIZABETH R.....	4	L. & S.....	Champaign.
VARNER, CARRIE.....	1	L. & S.....	Urbana.
VICTOR, CARRIE.....	4	L. & S.....	Champaign.
WALLACE, EMMA.....	3	L. & S.....	Champaign.
WHITED, ROSE.....	3	L. & S.....	Belmond, Iowa.

RECAPITULATION.

UNDERGRADUATES—Gentlemen.....	297
" Ladies.....	83
RESIDENT GRADUATES—Gentlemen.....	6

COURSES PURSUED.

Agriculture.....	45	Military.....	55
Horticulture.....	4	Literature and Science.....	199
Mechanical Engineering.....	22	Domestic Science and Art.....	6
Civil Engineering.....	31	Mining Engineering.....	2
Architecture.....	15	Builder's Course.....	2
Natural Science.....	9	Elective.....	5
Chemical.....	20		
Commercial.....	26		386

GRADUATES.—Class '72.

BURWASH, M. B.	Champaign,	<i>Farming.</i>
DAVIS, J. J.	Freeport,	"
DREWRY, H. N.	Mason,	<i>Medicine.</i>
FLAGG, A. M.	Siana Falls, Neb.	<i>Law.</i>
HATCH, M. F.	Bliven's Mills,	<i>Farming.</i>
HILL, E. L.	Effingham,	"
LYMAN, G. H.	Cairo,	<i>Engineering.</i>
MATHEWS, J. N.	Mason,	<i>Medicine.</i>
PARKER, C. E.	Urbana,	<i>Farming.</i>
REISS, W. A.	St. Louis, Mo.	<i>Engineering.</i>
REYNOLDS, S. A.	Rockford,	<i>Law.</i>
RICKARD, T. E.	Springfield,	<i>Farming.</i>
RICKER, N. C.	Champaign.	<i>Teaching.</i>
ROLFE, C. W.	Aurora,	"
SILVER, H.	Urbana,	<i>Farming.</i>
SILVER, C. W.	Chicago,	<i>Teaching.</i>
TEEPLE, J.	Detroit,	<i>U. S. Lake Survey.</i>
WHARTON, J. N.	Champaign,	<i>Mechanic.</i>
WHITCOMB, A.	Onarga,	<i>Medicine.</i>
WOOD, R. O.	Woodstock,	<i>Farming.</i>

Class '73.

GRAHAM, C. P.	Champaign,	<i>Ministry.</i>
HATCH, F. L.	Bliven's Mills.	<i>Farming.</i>
HAYS, C. I.	Champaign,	<i>Teaching.</i>
HENNESSEY, A. L.	La Salle,	"
HOOK, S. H.	Urbana,	<i>Farming.</i>
MORROW, A. T.	Detroit, Mich.	<i>U. S. Lake Survey.</i>
OCKERSON, J. A.	Detroit.	<i>U. S. Lake Survey.</i>
PHILLIPS, P. A.	Damascus,	<i>Farming.</i>
PLATT, F. C.	Rockford,	<i>Law.</i>
PORTERFIELD, E. N.	Sidney,	<i>Farming.</i>
ROBBINS, H. E.	Wenona,	<i>Mechanic.</i>
SWARTZ, A. C.	Champaign,	<i>Teaching.</i>
WILLIAMS, L. E.	Montrose, Iowa,	<i>Farming.</i>

Class '74.

BAKER, I. O.	Urbana,	<i>Teaching.</i>
CAMPBELL, J. P.	Georgetown,	"
DREWRY, E. L.	Mason,	<i>Farming.</i>
EATON, H.	Philo,	"
ELLS, W. C.	Champaign,	<i>Engineering.</i>

ESTEP, H. C.	Rantoul,	<i>Engineering.</i>
FOSTER, C. W.	England,	<i>Law.</i>
GENNADIUS, P.	Athens, Greece,	<i>Farming.</i>
JEFFERS, C. P.	Boston, Mass.	<i>Druggist.</i>
PIERCE, J. L.	Champaign,	<i>Law.</i>
PICKRELL, W.	Mechanichsburg,	<i>Farming.</i>
REYNOLDS, H. S.	Judsonia, Ark.	<i>Teaching.</i>
STOREY, C.	San Diego, Cal.	<i>Farming.</i>
SMITH, C. A.	Columbus, O.	<i>Mechanic.</i>
WHARRY, W. W.	Sycamore,	<i>Law.</i>
WATTS, W.	Graham,	<i>Farming.</i>
CHEEVER, ALICE	Champaign,	<i>Teaching.</i>
POTTER, ADELIA	Judsonia, Ark.	"
<i>Class '75.</i>		
BARNES, A. E.	Champaign,	<i>Teaching.</i>
BROWN, D. S.	Genoa,	<i>Veterinary Practice.</i>
BROWN, R. L.	Tolono,	<i>Teaching.</i>
CODINGTON, V. W.	Champaign,	<i>Mechanic.</i>
DOBSON, F. P.	Minonk,	<i>Engineering.</i>
DUNLAP, HENRY	Champaign,	<i>Farming.</i>
DUNLAP, BURLEIGH A.	Savoy,	"
EATON, E.	Philo,	"
EVERHART, W. S.	Neoga,	<i>Law.</i>
FAULKNER, J.	Bloomfield, Cal.	<i>Teaching.</i>
GRIDLEY, G. N.	Half Day,	<i>Farming.</i>
KENOWER, G. F.	Clement,	<i>Teaching.</i>
LEFLAR, J. E.	Batavia,	
LYFORD, C. C.	Montreal, Ca.	<i>Veterinary Inst.</i>
MCCAULEY, J. C.	Lincoln,	<i>Teaching.</i>
MUELLER, J.	Kcokuk, Iowa,	<i>Medical College.</i>
PARKS, J. H.	Tuscola,	<i>Editor.</i>
PARSONS, F. A.	Champaign,	<i>Teaching.</i>
PATCH, E.		
PICKRELL, WATSON	Mechanicsburg,	<i>Farming.</i>
POLLOCK, W. C.	Mt. Vernon,	<i>Law.</i>
ROBINSON, E. A.	Champaign,	<i>Mechanic.</i>
SCOVELL, M. A.	"	<i>Teaching.</i>
SCUDDER, C. O.	Rochelle,	"
SHAWHAN, G. R.	Mansfield,	"
TYNDALE, H. H.	Ithica, N. Y.	<i>Cornell University,</i>
WARNER, L. F.	Cal.	<i>Civil Engineering.</i>
ANDERSON, LAURA	Champaign.	
CAMPBELL, AMANDA	Philo,	<i>Teaching.</i>
HULLINGER, KATE	Rock Falls,	
KELLOGG, FLORA L.	Woodsville, Ohio.	
KARIHER, KATE		
LEE, ALICE	Champaign,	<i>Teaching.</i>
PIERCE, FANNIE	"	
STEWART, MAGGIE E.	"	<i>Teaching.</i>
STEELE, MARY C.	Urbana.	

I. I. U. DIRECTORY.*Spring Term, 1876.***ILLINI.**

Executive Committee—T. J. Burrill.
 C. L. Sim, M. Savage, F. A. E. Starr,
 C. Weston.
 Business Agent—J. W. Campbell.
 Superintendent of Office—W. F. Oliver.
 Editor-in-Chief—C. Weston.

I. I. U.**TELEGRAPHIC ASSOCIATION.**

Organized Jan. 9th 1874, for advancement in Telegraphy. Instruments now on line 25. Central office open for practice all hours of the day.

H.B. Sparks, President.
 Miss Ida McFarland, Secretary,
 D. W. Stooky, Inspector.

SCIENTIFIC ASSOCIATION.

Organized February 28th, 1871; meetings held in Society Hall every Friday at 7 o'clock P.M.

T. T. Williams, President.
 W. Morava, Secretary.

ALETHIENAI.

Young Ladies' Literary Society. Motto: "*Apo tou dunasthai, pros to einai.*" Organized, October 4th, 1871; meets every Wednesday at 3 P.M.

Miss E. Piatt, President.
 Miss M. E. Page, Secretary.

PHILOMATHEAN.

Young Men's Literary Society; motto: "*Come up Higher.*" Organized March 7th, 1868; meets in Society's Hall, at 7 P.M., every Friday.

C. E. Gregory, President,
 C. B. Gibson, Secretary.

ADELPHIC.

Young Men's Literary Society; motto: "*Animis opibusque parati.*" organized March 7th, 1868 chartered December 7th, 1872, meets in Society's Hall every Friday, at 7 P.M.

C. S. Kingsbury, President,
 J. Moffett, Secretary.

STUDENTS' GOVERNMENT.**EXECUTIVE**

President, Henry Mackay.
 Vice-President, Miss Eva Bogardus.
 Secretary, R. D. Faulkner.
 Treasurer, Miss C. Victor
 Marshal, H. Gilkerson.

JUDICIARY.

Chief Justice, R. Allen.
 Associate Justices, { A. G. Kennedy,
 { W. Buckingham.
 Prosecuting Attorney, W. P. Ward.

LEGISLATIVE.

President of Senate, D. F. Hallett.
 Vice-President, Miss E. Skinner.
 Secretary, O. W. Byrd.
 Ass't. Sec'y. Miss G. Cushman.

Members of Senate.

J. E. Bumstead, 3.	J. F. Drake, 3
M. Savage, 2.	C. L. Sim, 2
D. Mackay, 3.	H. Beardsley, 1
G. A. Wild, 3.	Miss Emma Page 1
C. Weston, 2	" G. Cushman, 1
F. A. E. Starr, 3.	" C. Spruill, 1
C. L. Richards, 1	" E. Maxwell, 3
E. Kays, 1.	" E. Columbia, 2
C. E. Gregory, 1.	

I. I. U. BATTALION.

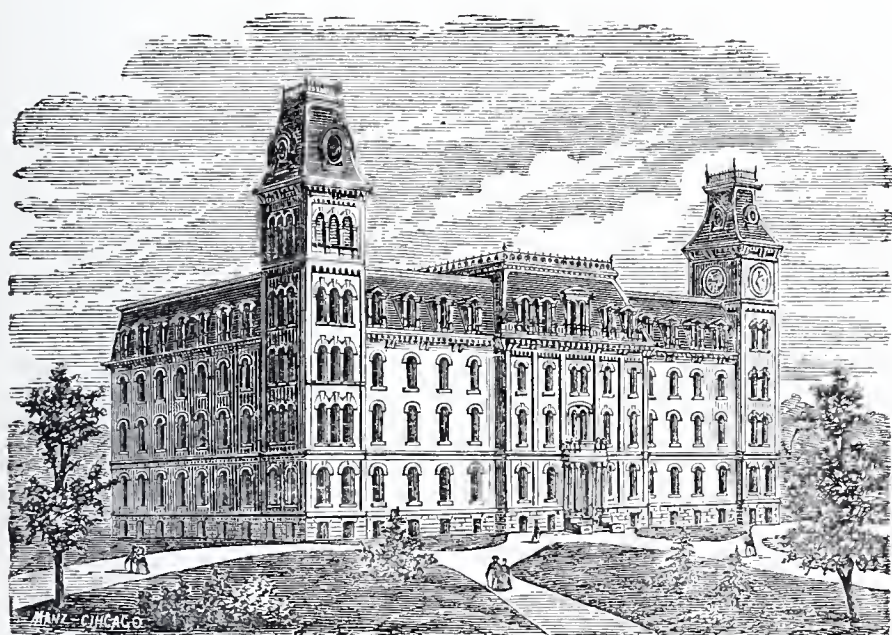
Commander of Battalion,
 Col. E. Snyder.
 Adjutant,—Capt F M Palmer.
 Co A, Capt J R Mann,
 Co B, Capt W A Mackay
 Co C, Capt C B Gibson
 Co D, Capt L R Noble
 Co E, Capt W F Oliver
 Co F, Capt R F Whitham
 Co G, Capt C E Gregory
 Co H, Capt G A. Wild

I. I. U. CORNET BAND.

Meets Monday and Thursday nights
 in Band Room—12 instruments.
 J. A. McLane Leader.

GYMNASIUM.

Membership fee \$1,
 J. R. Mann, Leader,
 H. O. Smith, Treasurer.



MAIN UNIVERSITY BUILDING.

Illinois Industrial University.

HISTORY.

The Illinois Industrial University had its origin in a grand movement for the higher education of the industrial classes, begun in 1851, and resulting in the Congressional grant of lands for this purpose, made to the several states in 1862. The grant, amounting in this state to 480,000 acres, having been accepted, the University was chartered in February, 1867, and publicly opened and inaugurated in March, 1868. In addition to the endowment received from the land grant, over \$400,000 were donated by Champaign County in Bonds, Build-

ings and Farms. The state has also made large appropriations for fitting up and stocking the farms, for library and apparatus, and for buildings, including the large main building erected in 1872 and '73, and the Mechanical Building and Drill Hall. Successive Colleges and Schools were added as required, till four Colleges, including thirteen distinct Schools, were organized. The attendance has been as follows:

For the term ending June	1868	-	-	-	-	-	75.
" " year "	" 1869	-	-	-	-	-	112.
" " " "	" 1870	-	-	-	-	-	180.
" " " "	" 1871	-	-	-	-	-	278.
" " " "	" 1872	-	-	-	-	-	381.
" " " "	" 1873	-	-	-	-	-	400.
" " " "	" 1874	-	-	-	-	-	406.
" " " "	" 1875	-	-	-	-	-	374.
" " " "	" 1876	-	-	-	-	-	386.

The whole number matriculated as students since the opening is 1030. The number graduated from the several Colleges, including the class of '76, is 121. In 1871 the University was opened for lady students, on the same terms as to gentlemen, and large numbers have availed themselves of the privileges offered. In 1874 a fine Art Gallery was established, containing a large collection of casts of celebrated statues and sculptures, and of engravings, autotypes, &c. The University has steadily advanced in standing and in public reputation, and now holds admitted rank among the first institutions of its class in this country.

LOCATION.

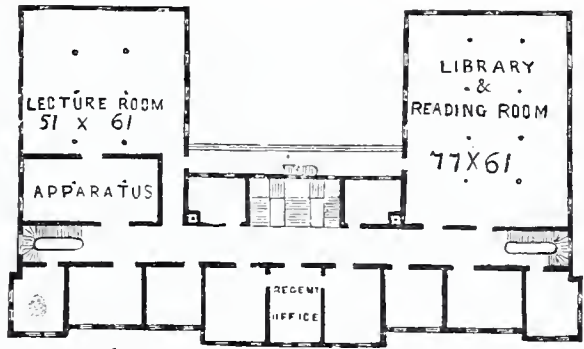
The University has a beautiful situation on the high grounds between the contiguous cities of Champaign and Urbana, and within the corporate limits of the latter. It is one hundred and twenty-eight miles south from Chicago, on the Illinois Central Railroad. The Indianapolis, Bloomington & Western Railway passes near the grounds. The country is made up of beautiful, rolling prairies, with large belts of timber along the streams, presenting one of the richest farming regions in the State.

BUILDINGS AND GROUNDS.

The domain occupied by the University and its several departments embraces about 623 acres, including stock farm, experimental farm, orchards, gardens, nurseries, forest plantations, arboretum, botanical garden, ornamental grounds, and military parade ground.

The University buildings, fourteen in number, include a grand main building for public use, one large and two small dormitory buildings, a large Mechanical and Drill Hall, a Veterinary Hall, a small Astronomical Observatory, three dwellings, two large barns and two green houses.

The New University Building, (see page 17,) is one of the most spacious and convenient to be found on this continent. It is 214 feet in length, with a depth on the wings of 122 feet. It is designed wholly for public use. The library wing is fire proof, and contains five large halls devoted to the library and various cabinets and museums. The chapel wing affords a large physical laboratory and lecture-room, and spacious draughting-rooms. In the main part are thirty class rooms of good size, cloak and wash-rooms for both sexes, store rooms, and several large halls for students' literary societies.



PLAN OF NEW BUILDING—SECOND FLOOR.

The Mechanical Building and Drill Hall is of brick, 128 feet in length, by 88 feet in width. It contains a boiler, forge and tank room; a machine shop, furnished for practical use, with a steam engine, lathes and other machinery; a pattern and finishing shop; shops for carpentry and cabinet work, furnished with wood-working machinery; paint and draughting-rooms, and rooms for models, storage, etc. In the second story is the large Drill Hall, 120 by 80 feet, sufficient for the evolutions of a company of infantry, or a section of a battery of field artillery. One of the towers contains an armorer's shop and military model room, an artillery room and a band room. The other contains a printing office and editor's room.

The large Dormitory Building is 125 feet in length and five stories in height. It affords 80 dormitory rooms for students. A wing of 40 by 80 feet contains the two chemical laboratories. The two smaller dormitory buildings contain eight rooms each.

PROPERTY AND FUNDS.

Besides the lands and buildings already described, which are, with furniture, library, etc., valued at \$400,000, the University owns 25,000 acres of well selected lands in Minnesota and Nebraska. It has also endowment funds invested in state and county bonds amounting to \$319,000, besides other property and avails, valued at \$33,000. The state has appropriated \$25,000 to the Agricultural Department for barns, tools, stock, etc.; \$20,000 to the Horticultural Department for green-house, barns, drainage, tools, trees, etc.; \$25,000 for Mechanical and Military Building, Machinery, etc.; \$127,000 toward the erection of the Main Building, and furnishing the same; \$10,500 to furnish the Chemical Laboratory; and \$20,000 for Library and Apparatus; \$4,000 for the apparatus of a Physical Laboratory, \$3000 for a Veterinary Hall, Stable and apparatus; besides large amounts for agricultural experiments, etc.

MUSEUM AND COLLECTIONS.

The collections of minerals, fossils, shells, birds, mammals, insects, plants, etc., have been made with much care and expense, and are steadily increasing. They are notably large in some departments and afford valuable facilities in the Study of Natural History and Geology. The collection in Entomology is one of the largest in the West.

One of the Trustees has lately presented to the University the full series of celebrated casts of fossils made by Prof. H. A. Ward of Rochester, N. Y. This collection embraces the most rare and valuable fossils of the British Museum and of other great European collections as well as those of President Hitchcock and others in America.

LIBRARY.

The Library, which has been carefully selected with reference to the scientific studies required in the several practical courses, includes now over 10,000 volumes. The large Library Hall is fitted up as a Reading-Room, and is open throughout the day for study, reading, and consultation of authorities. It is well provided with American, English, French, and German papers and periodicals, embracing some of the most important scientific and art publications. The following is a list of the periodicals regularly received:

AGRICULTURAL AND HORTICULTURAL.

American Agriculturist,
Cultivator and Country Gentleman,
California Farmer,
Journal d'Agriculture Pratique, *Paris*,
Michigan Farmer,
New England Farmer,
National Live Stock Journal,
Prairie Farmer,
Rural New Yorker,
Western Farmer,
Southern Cultivator,
Gardener's Chronicle,
London Agricultural Gazette,
New England Homestead,
Western Agriculturist,
Western Rural,
Williamette Farmer,
Gardener's Monthly,
Horticulturist,
Revue Horticole, *Paris*,

ENGINEERING.

Encyclopedie d'Architecture, *Paris*,
Engineering, *London*,
Architektonisches Skizzen-buch *Berlin*,
Railroad Gazette,
Scientific American,
Scientific American Supplement,

The Builder, *London*,
The Workshop,
Van Nostrand's Eclectic Engineering
Magazine,
Polytechnic Review.

SCIENTIFIC.

American Chemist,
American Journal of Science,
Polytechnisches Journal, *Augsburg*,
Popular Science Monthly,
Astronomical Register, *London*,
Mathematical Quarterly,
Official Patent Office Gazette,
Patent Right Gazette,
Industrial Bulletin,
Science of Health,
Jahrbericht der Chemie, *Geissen*,
Berichte der Deutschen Chemischen
Gesellschaft, *Berlin*,
Viehsucht, *Berlin*.
Kansas Farmer.
American Naturalist,
Annalen der Chemie,
British Microscopic Journal,
Comptes Rendus, *Paris*,
Journal of the Franklin Institute,
Nature, *London*,

LITERARY.

Edinburgh Review,
 London Quarterly,
 The Nation,
 North American Review,
 North British Review,
 Revue des Deux Mondes, *Paris*,
 Scribner's Magazine,
 Deutsche Rundschau, *Berlin*,
 Atlantic Monthly,
 International Review,

Dollar Monthly,
 New England Journal of Education,
 New York Observer,
 Am. Journal of Education.

NEWS.

Champaign County Gazette.
 Rantoul Journal,
 Inter-Ocean, Weekly,
 Urbana Republican,
 Douglas Co. Review,
 Danville News.

FINE ART GALLERY.

This Gallery is one of the largest and finest in the country. It is the gift of citizens of Champaign and Urbana. A beautiful Hall, nearly 60 by 80 feet, has been fitted up as an Art Gallery, and the large and beautiful display of Art objects in it surprises and delights all visitors. Many have come from a distance to see it, and several High Schools have made excursions to visit it. There is, perhaps, no collection in the West that equals it in the number and value of its specimens. Many of the great master pieces of Sculpture are here exhibited in casts taken directly from the originals. The value of this splendid Collection as a means of education is already exhibiting itself in the several departments of Drawing and Design at the University.

ORGANIZATION OF THE UNIVERSITY.

COLLEGES AND SCHOOLS.

The Institution is a true University in the best American sense, though not yet complete in all departments, and differing designedly in the character of some of its Colleges from the older institutions of this country. It is divided into four Colleges and these are again subdivided into Schools. A School is understood to embrace the course of instruction needful for some one profession or vocation. Schools that are cognate in character and studies are grouped under the same College.

I. THE COLLEGE OF AGRICULTURE.

School of Agriculture. School of Horticulture.

II. COLLEGE OF ENGINEERING.

School of Mechanical Engineering. School of Civil Engineering.
 School of Mining Engineering. School of Architecture.

III. THE COLLEGE OF NATURAL SCIENCE.

School of Chemistry. School of Natural History.

IV. THE COLLEGE OF LITERATURE AND SCIENCE.

School of English and Modern Languages. School of Ancient Languages.

V. ADDITIONAL SCHOOLS.

School of Military Science. School of Commerce. School of Domestic Science and Art.

VOCAL and INSTRUMENTAL MUSIC, TELEGRAPHING, PHOTOGRAPHY, and DESIGNING, are also taught, but not in regular courses.

In the appendix the student will find marked out the courses of studies arranged for the several schools. A completion of one of these courses, will be necessary to entitle him to graduate. A student desiring to pursue any branch of study farther than is provided for in the courses of the Schools, will find a statement of the extent of the course of instruction given in such branch under the heading "Departments."

CHOICE OF STUDIES.

It has been a favorite aim of the University from the outset to allow as much freedom as possible in the selection of studies.

The University was designed not for children, but young men and women, who may claim to know something of their wants, powers and tastes. It is not useful to require every student, without regard to his capacity, or practical wants, to take entire some lengthened "course of study." Liberty everywhere has its risks and responsibilities as well as its benefits—in school as well as in society: but it is yet to be proved that compulsory scholarship is necessarily better, riper and more certain than that which is free and self-inspired. Each student is exhorted to weigh carefully his own powers and needs, to counsel freely with his teacher, to choose with serious and independent consideration the branches he may need to fit him for his chosen career, and then to pursue them with earnestness and perseverance, without faltering or fickleness.

It is necessarily required; 1st, That the student shall be thoroughly prepared to enter and keep pace with the classes in the chosen studies; and 2d, That they shall take these studies in the terms in which they are taught.

It is expected that each student shall have three distinct studies, affording three class exercises each day. But on special request, the Faculty may allow less or more, to meet the exigencies of his course.

No change in studies can be made after the beginning of a term without permission of the Faculty.

It is recognized that students will often need advice in the selection of studies and the arrangement of a proper course. To meet this need the Faculty have carefully arranged several Courses of Studies which are expected to be followed by those who have no special reason for diverging from them. See Courses, in Appendix.

Due care will be taken to prevent as far as possible all abuse of the liberty of choice. Students failing to pass satisfactory examinations in their chosen studies, will not be permitted to remain and take other studies without a vote of the Faculty.

To secure the more certainly the diffusion of the branches of learning, relating to the great industries, the State Legislature in 1873, prescribed that each Student should be taught some of those branches.

Under the present laws of the State each student is required to study some of the branches relating to Agriculture and the Mechanic Arts.

The Trustees have accordingly made the following classification of studies, and require that each student shall take each term, one study at least from the first class. His second study must be of either the first or second class, and his remaining studies from either of the three classes.

CLASS I. Physics, Chemistry, Mineralogy, Physical Geography, Anatomy and Physiology, Botany, Zoology, Geology, Entomology, Algebra, Geometry, Trigonometry, Calculus; Drawing, Surveying and Engineering, Mining and Metallurgy, Mechanics, Architecture, Principles of Mechanism, Hydraulics, Thermodynamics, Strength of Materials, Prime Movers, Mill Work, Machine Drawing, Origin and Treatment of Soils, Culture, etc., of Plants, Breeding of Domestic Animals, Veterinary Science, Farm Products and Manufactures, Roads and Railroads, Book-Keeping, Construction and Use of Machinery, Modelling and Patterns, Bridges, etc., Astronomy, Military Science and Domestic Science.

CLASS II. English Language and Literature, German Language and Literature, French Language and Literature, General History, U. S. History, Ancient History, Mediæval History, Modern History, Constitutional History, History of Civilization, Logic, Political Economy, History of Agriculture, Constitutional Law, International Law, Rhetoric and Oratory.

CLASS III. Any study taught in the University not enumerated in the first and second classes.

AIMS OF THE UNIVERSITY.

The University being both State and National in origin, its aims are defined by the following extracts from the laws of Congress and of the State Legislature.

"Its leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."—*Act of Congress*, 1862, *Sec. 4*.

"The trustees shall have the power to provide the requisite buildings, apparatus, and conveniences, to fix the rates of tuition, to appoint such professors and instructors, and establish and provide for the management of such model farms, model art, and other departments and professorships as may be required to teach in the most thorough manner, such branches of learning as are related to agriculture and the mechanic arts, and military tactics, without excluding other scientific and classical studies."—*Act of General Assembly*, 1867, *Sec. 7*.

In accordance with the two acts above quoted, and under which the University is organized, it holds as its principal aim to offer freely the most thorough instruction which its means will provide, in all the branches of learning useful in the industrial arts, or necessary to "the liberal and practical education of the industrial classes, in the several pursuits and professions in life." It includes in this all useful learning, —scientific and classical—all that belongs to sound and thorough scholarship.

PRELIMINARY YEAR.

The University has steadily refused till now to open any preparatory School. The preparatory work is well done in the many excellent High Schools of the State, and the funds of the University ought not to be diverted from their proper uses, to provide instruction in merely Preparatory Studies. A needful advance in the standard for admission to the College courses and the necessity of providing temporarily at least for those who will come from places where no good High Schools exist, now induce the Trustees to provide for preparatory classes *in the Studies lying between the common School Studies and the College courses.*

These preparatory classes will be opened at the beginning of the next college year, SEPTEMBER 12TH, 1876.

Candidates for these classes must be at least 15 years old. They must also pass satisfactory examinations in Arithmetic, Geography, English Grammar and History of the United States. The examination in these branches should be equal to that usually required for a Second Grade certificate for teachers. This examination may be made by county Superintendents, or by principals of High Schools.

The Studies taught in the Preliminary year will be as follows;

FIRST TERM.

Algebra (Olney's), Physiology (Dalton's), Book-keeping.

SECOND TERM.

Geometry (Olney's), English (Swinton's), and Natural Philosophy (Peck's Ganot.)

THIRD TERM.

Geometry completed, English, and Botany.

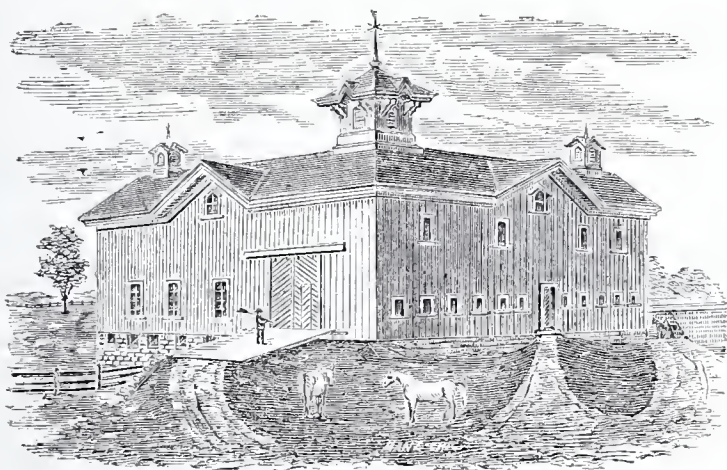
For candidates for the classical course, the studies will be as follows:

First Term.—Algebra, Latin (Cæsar), Greek (Grammar and Reader.)

Second Term.—Geometry, Latin (Cicero), Greek (Anabasis.)

Third Term.—Geometry, Latin (Virgil), Greek (Anabasis.)

Students in the preparatory studies will not be matriculated as University Students. They will pay no entrance fee, but will be charged a tuition fee of TEN DOLLARS a term, and the usual incidental fee of FIVE DOLLARS a term. They will have all the privileges of the library and of the public lectures.



STOCK FARM BARN.

COLLEGE OF AGRICULTURE.

FACULTY.

THE REGENT,
PROFESSOR TAFT,
PROFESSOR SHATTUCK,
PROFESSOR WEBER,

PROFESSOR MILES,
PROFESSOR BURRILL,
DOCTOR F. W. PRENTICE,
ASSISTANT C. I. HAYS.

SCHOOLS.

SCHOOL OF AGRICULTURE,

SCHOOL OF HORTICULTURE.

SCHOOL OF AGRICULTURE.

OBJECT OF THE SCHOOL.

The aim of this school is to educate scientific agriculturists. The frequency with which this aim is misunderstood by the community at large, demands that it shall be fully explained. Many, who look upon agriculture as consisting merely in the manual work of plowing, planting, cultivating and harvesting, and in the care of stock, justly ridicule the idea of teaching these arts in a College. The practical farmer who has spent his life in farm labors, laughs at the notion of sending his son to learn them from a set of scientific professors. But all of this implies a gross misunderstanding of the real object of agricultural science. It is not to teach *how* to plow, but the reason for plowing at

all—to teach the composition and nature of soils, the philosophy of plowing, of manures, and the adaptations of the different soils to different crops and cultures. It is not simply to teach how to feed, but to show the composition, action and value of the several kinds of food, and the laws of feeding, fattening, and healthful growth. In short, it is the aim of the true Agricultural College to enable the student to understand thoroughly and profoundly, all that man can know about soils and seed, plants and animals, and the influences of light, heat and moisture on his fields, his crops, and his stock; so that he may both understand the reason of the processes he uses, and may intelligently work for the improvement of those processes. Not “book farming,” but a knowledge of the real nature of all true farming—of the great natural laws of the farm and of all its phenomena—this is the true aim of agricultural education. And when it is recollected that agriculture involves a larger number of sciences than any other human employment or profession, it will not be regarded as an unfit end of a sound collegiate training.

INSTRUCTION.

It has been the steady aim to give to the College of Agriculture the largest development practicable, and to meet the full demand of the country for Agricultural education, as fast as it shall arise. Agricultural students are specially invited.

The instruction unites, as far as possible, theory and practice—theory explaining practice, and practice illustrating theory.

The subjects are so arranged that those not requiring illustration upon the farm are taught in the winter, and sufficient educational labor is given in favorable weather to impress and illustrate the principles developed in lectures and recitations. In Veterinary Science the lectures are given by a graduate of the Schools of Veterinary Science in both Edinburgh and London. Sick animals are brought in from the neighborhood, and are treated free of charge, for the instruction of the classes, and students are practiced in dissections and post mortem examinations. It is not the purpose at present to give a full veterinary education but several students have become good practitioners of veterinary medicine.

APPARATUS.

The college has for the illustration of practical agriculture a large stock farm of 410 acres, provided with a large stock barn, fitted up with stables, pens, yards, cooking room, etc. It has also a fine stock of several breeds of neat cattle, embracing Short Horns, Devons, and Jerseys. Also several breeds of swine and sheep, to illustrate the problems of breeding and feeding. An Experimental Department, aided by a special appropriation, exhibits field experiments, in the testing of the different varieties and modes of culture of field crops, and in the comparison and treatment of soils, carried on at the University farm, where about sixty acres are devoted to this purpose. It includes also experiments in horticulture and agriculture, under the direction of the Professors of Agriculture and Horticulture and of the Farm Superin-

tendent, and experiments in feeding animals of different ages and development upon the various kinds of food. In common with similar departments in the several State Agricultural Colleges of the country, it attempts to create positive knowledge towards the development of an agricultural science.

The Barn on Stock Farm has north and west fronts of 80 feet each. Each limb, or ell, is 40 feet wide. It is of the kind known as a side-hill barn.

In the basement is a root cellar, a cook room, furnished with a steam boiler to steam food, and a small engine to furnish power for grinding, threshing and cutting; a set of hog pens, another set of pens or yard under the shed, which extends along both sides of the barn in the angle; a set of bull stalls for the several breeds, and a series of stalls for fine breeding cows, with calf pens in the rear. The first floor has horse stalls, a series of box stalls for breeding mares, grain bins, and a harness room.

The Barn on Experimental Farm is of less size, but is fitted up with great convenience and is supplied with a mill for grinding feed, run by a large wind mill.

A Veterinary Hall and Stable has been provided, and a Clinic is held to illustrate the lectures on Veterinary Science. The department has *papier-mache* models of the foot, and of teeth of the horse at different ages.

Surveying and Drainage are illustrated by practice in the field. Chemistry is pursued by work in the Laboratory. Collections of seeds, soils, plants, implements, skeletons of animals, models, and apparatus are provided to illustrate the several branches of Agricultural Science.

ADMISSION.

Candidates for admission to the college of Agriculture must be at least, fifteen years of age, and must pass satisfactory examination in the common school branches and in the studies of the preliminary year, (see page 24.) While by law, students may be admitted at fifteen years of age, in general it is much better that they shall be eighteen or twenty, and many have taken the course after reaching the age of thirty. It will be well also if candidates shall have pursued other studies, besides those required for admission. The better the preparation the more profitable the course.

THE AGRICULTURISTS COURSE.

FIRST YEAR.

1. Trigonometry and advanced Geometry; Chemistry, advanced Botany.
2. Cryptogamic Botany; Chemistry, Free-Hand Drawing.
3. Chemistry, Rhetoric, Entomology, or Breeds and Breeding.

SECOND YEAR.

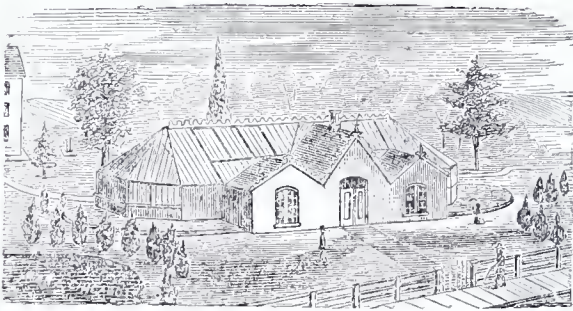
1. Surveying and Drainage, Soils; German.
2. Agriculture or General Horticulture, Zoology; German.
3. Zoology, Astronomy; German.

THIRD YEAR.

1. Orchards and Fruits; Ancient History; German or French.
2. Agricultural Chemistry; Physics; German or French.
3. Physiology of Domestic Animals; Modern History; German or French.

FOURTH YEAR.

1. Veterinary Science, Geology; Mental Science.
2. Veterinary Science, Meteorology and Physical Geography; History of Civilization.
3. Agricultural Laboratory and Thesis; Politican Economy; Rural Economy.

SCHOOL OF HORTICULTURE.


GREEN-HOUSE.

OBJECT OF THE SCHOOL.

The aim of this school is to afford a scientific and practical education specially adapted to the wants of those who cultivate garden and orchard plants, or wish to manage nurseries, parks and pleasure grounds.

INSTRUCTION.

The instruction is both theoretical and practical. The class room recitations and lectures are supplemented by instructive practice in the fields and plant-houses. In connection with the lectures upon methods of obtaining and perpetuating new varieties of plants, students have practical exercises in cross-fertilizing, seeding, grafting, budding, etc., as a part of their regular education. So, in connection with the studies of ornamental plants and grounds, the care of the green-houses constitutes an essential feature of the student's work. Ladies can engage not only in the studies, but also in the practical exercises. The course which is recommended for those intending to prepare for the duties of the practical horticulturist, is given below.

The first year corresponds with the school of agriculture. These studies are mainly scientific, intended as a foundation for the technical branches which follow. Nevertheless constant endeavor is made from the first to render Botany, Zoology, Entomology, Chemistry, etc., useful and practical, without diminishing their scientific interest. The plants and insects either beneficial or injurious to man are as important to the naturalist as others, while investigations

concerning them find immediate application in the fields and gardens. Throughout the course as far as practicable students are required to make extended observations upon, and collections of, objects studied. Facilities are provided for original investigations. Excursions are taken as found expedient and possible, and reports of visits to special objects and places, either during term time or vacation, are received as part of the required study.

At the end of the course a Thesis is required upon some allowed subject connected with Horticultural interests or pursuits. This must be the record of original experiment or research with such deductions as the author, under the supervision of the Professor in charge, may consider appropriate and correct. Suitable illustrations are to accompany the paper. After reading as required, the Theses will be deposited in the library of the school.

APPARATUS.

The Apparatus for the practical portions of the course of instruction is well provided, and the means of illustration are fast accumulating.

Of 100 acres of land devoted to the use of the school, 20 are planted with forest timber trees, including many valuable kinds, both native and introduced. An apple orchard of over 1,200 varieties is beginning to bear, several different kinds of pears are growing, also many varieties of cherries, grapes, blackberries, strawberries, currants, gooseberries, etc. The nurseries are well filled with young ornamental and useful plants, and in the vegetable gardens a large collection has been made. An Arboretum and a Botanical Garden have been commenced, in which it is proposed to gather all the native and hardy exotic plants. Twenty acres are devoted to the building and ornamental grounds, where much pains are taken to make both summer and winter ornamentation attractive and pleasing. A fine green-house, 36 by 70 feet, filled with a rich collection of valuable plants. Other structures afford ample room for the propagation of a large stock of plants, and also illustrate the different modes of heating. The cabinets include many illustrative specimens, and the library contains the best horticultural literature known to the world.

HORTICULTURISTS COURSE.

FIRST YEAR.

(Same as Agriculturists' course.)

SECOND YEAR.

1. Forestry and Drainage; Soils; German.
2. General Horticulture; Zoology; German.
3. Zoology; Astronomy; German.

THIRD YEAR.

1. Orchards and Fruits; Ancient History; German or French.
2. Agl. Chemistry; Physics; German or French.
3. Modern History; Physics; German or French.

FOURTH YEAR.

1. Horticulture; Geology; Mental Science.
2. Microscopy; Meteorology and Physical Geography; History of Civilization.
3. Landscape Gardening; Political Economy, Laboratory and Thesis.

COLLEGE OF ENGINEERING.

FACULTY.

THE REGENT.
PROFESSOR WEBB.
PROFESSOR RICKER.
J. KENIS.

PROFESSOR ROBINSON.
PROFESSOR WEBBER.
I. O. BAKER.
A. C. SWARTZ.

SCHOOLS.

S. OF MECHANICAL ENGINEERING.
S. OF MINING ENGINEERING.

S. OF CIVIL ENGINEERING.
S. OF ARCHITECTURE.

ADMISSION.

Applicants should be at least eighteen years of age, and none will be admitted under fifteen. The requirements for admission embrace the common school branches and the studies of the preliminary year. (See page 24.) The examinations in Mathematics are most thorough. Thorough preparation is essential to success in the professions of the Engineer and Architect.

The studies are so arranged that those who will make further preparation than is required before entering, can make their courses more extensive and profitable, and the following suggestions will be of use to such as wish to make thorough work. One recitation a day is devoted to modern languages; by coming well prepared in English, with some knowledge of English literature, the whole of this time can be devoted to French and German, each of which should have at least one year. Some preparation in Latin will be of great assistance in these languages. The engineer and architect should be adepts in the various departments of drawing, and some previous study and practice of this branch will be of great advantage; "Warren's Draughting Instruments" may be used as a text-book, and the drawings made on smooth paper, each plate eight by ten inches.

REGULATION PAPER.

The following sizes and qualities of paper will be required in all the College exercises.

For manuscript and unimportant drawings, a heavy flat-cap paper, but slightly sized. For ordinary drawings, not colored, a heavy first-quality smooth drawing paper. For drawings finished in colors, the best Whatman's paper. For topographical and right-line drawings, and lettering, the best three sheet Bristol board.

SIZES.

For Problems, Exercises, Vacation Journals, Lecture notes, Theses and other Manuscripts and for Geometrical, Projection, Topographical, Railroad, Typographical and Construction Drawings. Paper $8 \times 11\frac{1}{2}$ in., the size of the plate being 8×10 with $\frac{1}{2}$ added for binding. If Bristol board is used it must be cut 8×10 in. and the binding margin hinged on with muslin.

CONSTRUCTION.

Our friends and students are earnestly desired to send us specimens of material and manufactures, and drawings, models or photographs of machinery, bridges, and other engineering and architectural works. Finished and detailed working drawings, perhaps otherwise useless, would be of great value for purposes of instruction. Illustrated circulars and price lists of manufacturing firms are desired. Contributions will be labeled with the donors' names and placed in the cabinets of the College for the inspection of students, and the illustration of lectures.

SPECIAL EXERCISES, VACATION JOURNALS AND MEMOIRS.

During the second and third vacations, Journals are required to be kept by each student of the college; and should contain accounts of matters pertaining to his chosen profession. These will be presented at the opening of the winter term, and will be read before the faculty and students of the college in evening sessions held in the physical lecture room; the reading being illustrated with blackboard sketches, drawings, photographs or specimens. The journals should be pithy and concise, instead of voluminous.

The Journals should consist of illustrated descriptions of engineering and architectural subjects: such as important steam engines, water and gas works, mines and mining machinery and processes. Special methods in use of government and land surveys, make up of parties; plans and ornamentation of important buildings; Architectural style and details, stability, economy and novelty of construction of roof trusses, arches, bridges, canals and reservoirs, peculiar instruments, machinery for spinning metals, making gas pipes, saws, &c.

These Journals and Memoirs will be preserved in the cabinets of the respective schools, for future reference; also they will be credited upon the diplomas, and no course of the college will be regarded as completed without them.

THESES.

In all the Schools of this College a Thesis is required of those who graduate. It must be an original composition of suitable length, upon a subject appropriate to the School, and approved by the Professor in charge. The student must be prepared to read, explain and defend it before his class. It must be illustrated with such photographs, drawings and sketches as may be needed, and embellished with a title page neatly designed and printed with India ink, or colors. It must be upon Regulation Paper and securely bound. It will be prepared during the latter part of the fourth year and presented at the close of the course, after which it will be deposited in Library of the College.

SCHOOL OF MECHANICAL ENGINEERING.

MECHANICAL BUILDING AND DRILL HALL.

OBJECT OF THE SCHOOL.

This school is intended to prepare students for the profession of Mechanical Engineering. It is designed to supply a class of men long needed, not simply practical or wholly theoretical, who, guided by correct principles, shall be fully competent to invent, design, construct, or manage machinery, in the various industrial pursuits. The instruction, while severely scientific, is thoroughly practical, aiming at a clear understanding and mastery of all mechanical principles and devices. Practice in the Mechanical Laboratory is combined with the theoretical training, and is counted as one of the studies of the course.

INSTRUCTION.

Instruction in this school is given in both Principles and Practice. In PRINCIPLES, the knowledge is imparted in lectures, combined with the use of plates and illustrative models, and recitations are made from

text-books. Numerous examples are also given, showing the application of the theories and principles taught. Experiments in the testing of machines and motors are undertaken by the student.

IN PRACTICE, the instruction consists mainly in the execution of Projects, in which the student is required to construct machines, or parts thereof, of his own designing, and from his own working drawings. The students, in class exercises under competent teachers, use the machinery and tools of the Machine and Pattern Shops and Foundry, according to the most approved methods of modern practice. See "Projects."

The practical instruction is not intended merely to teach the trade, but is added as a necessary supplement to the theoretical training.

TECHNICAL STUDIES.

The studies are given by the year and term in the tabular view of Course. The order of studies there indicated should be closely followed, that the student may avoid interference of his hours of recitation. The following is a detailed view of the Technical Studies.

MATHEMATICS.

For a list of the subjects included under Pure Mathematics, see the Department of Pure Mathematics, as far as Calculus of Variations. The following are those included in Applied Mathematics:

CINEMATICS, AND PRINCIPLES OF MECHANISM—Relative Motion of points in a system of connected pieces; Motion independent of Force; Velocity ratio; Investigation of Motion of elementary parts of machines, as Friction and Curve Wheels in rolling contact, Cams and Curves in sliding contact; Correct-working Gear Teeth; Gearing Chains; Escapements; Link-work. ANALYTICAL MECHANICS—Equations of Equilibrium; Moments; Virtual Velocities; Centers of Gravity; Mechanical Powers; Friction; Dynamics. HYDRAULICS—Amount and Center of Pressure upon submerged surfaces; Flow of Liquids through Orifices, Weirs, Pipes and Channels; Distribution of water in cities. THERMODYNAMICS—Thermal and Thermometric Units; Sensible, Specific and Latent heat; Expansion by heat; Absolute Temperature; Laws of Thermodynamics; Thermal Lines; Changes of Temperature and Pressure attending Expansion of Gases; Laws of Work. PNEUMATICS—Flow of Gases through Orifices and Pipes; Density and Inertia of Gases; Distribution of Illuminating Gas; Ventilation.

NATURAL SCIENCE.

PHYSICS AND DESCRIPTIVE ASTRONOMY—See Departments of Physics and Astronomy. CHEMISTRY—Inorganic Chemistry and Qualitative Analysis. GEOLOGY—Elements of Physiographic, Lithological, Historical and Dynamical Geology.

DRAWING.

PROJECTION DRAWING—Use of Instruments in applying the Elements of Descriptive Geometry; Use of Water Colors; Isometrical

Drawing; Shades and Shadows; Perspective. **FREE-HAND DRAWING**—Sketches of Machinery; Ornamentation; Lettering. **MACHINE DRAWING**—Working Drawings of Original Designs; Finishing in Water Colors, and in Line-shading; Details for Shop Use according to the practice of leading manufacturers.

ENGINEERING.

PROJECTS—Proportions, dimensions and customary forms of Machinery; Designing and Detailing; Construction of Machines from Working Drawings in the Mechanical Laboratory. **RESISTANCE OF MATERIALS**—See School of Civil Engineering. **PRIME MOVERS**—Work developed by water-wheels, wind-wheels, and by steam; Hot-air and Electric Engines; Economy of different Engines. **MILL-WORK AND MACHINERY**—Principles of Mechanism; Correct forms for parts of Machines; Machinery for Transmission; Manufacturers' and Engineers' Machinery; Elastic and ultimate strengths of heavy machinery.

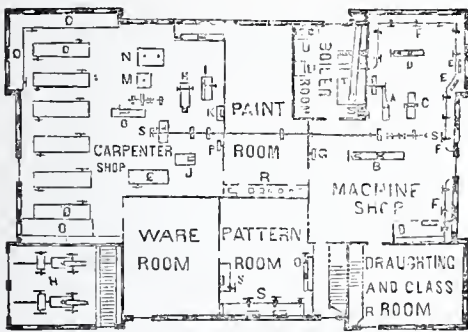
PROJECTS.

The Designing, Drawing and Shop Practice, have always a definite practical purpose. The students under the immediate direction of teachers, carefully determine the dimensions and shapes best suited for the parts of some machine, reduce them to neat and accurate working drawings and make tracings for shop use. In the fourth year the drawings are completely finished with line-shading or colors, and detailed according to the best methods. Specimen drawings are left for the use of the School. No student will commence his shop practice without working drawings. The designs are such as require execution in iron, brass and wood, for the purpose of giving breadth of practice. The student is required to make the patterns and castings, finish the parts, and put them together in accordance with the working drawings and the required standard of workmanship. This acquaints him with the manner in which the Mechanical Engineer carries his designs into execution and teaches him to so shape, proportion and dispose the parts of a machine as to secure the greatest economy of construction, and durability in use.

Experiments in the testing of Prime Movers and other machines, are undertaken by the classes. They take Indicator Diagrams from the engine of the Mechanical Laboratory and determine from them the power developed with different degrees of expansion.

APPARATUS.

This school is provided with plates and a cabinet of models illustrating mechanical movements and elementary combinations of mechanism. This collection is rapidly increasing by our own manufacture, and by purchase from abroad. A supply of Rigg's models has lately been added, and others from the celebrated model manufactory of J. Schröder of Darmstadt, Germany. About two hundred valuable models have been received from the United States Patent Office.



MECHANICAL LABORATORY.

This plan shows the arrangement of the Mechanical Laboratory. The bottom and left-hand side of the plan correspond to the two faces of the Mechanical Building, shown in perspective on page 19.

In the Boiler and Furnace Room, T, is a Root's Sectional Safety Boiler of 33 horse-power, which supplies steam for the engine, and for warming the building. The Emery Grinder, U, is

in this room. At Z is a Stillwell Heater and Lime Extractor for supplying the boiler with water. The water is forced into the boiler by an independent steam feed-pump for hot and cold water.

In the Machine Shop, A, is the Engine, of 16 horse-power, regulated by a variable cut-off. It was made by the students of the University. A Richard's Indicator is fitted to the cylinder. The main line of shafting is 72 feet long, and furnished with the best iron pulleys and hangers. At B is a Putnam Engine Lathe of 20 inches swing by 10 feet bed. At D is an Ames Lathe of 15 inches swing and 6 feet bed. At C is a Putnam Planer for iron, planing 5 feet long. At E E are two Hand Lathes made by students. At F F F is a stretch of about 100 feet of heavy hard-wood benches, fitted up with vises, drawers, tool easels, etc. At G is the Grindstone, also a No. 1 Sturtevant Pressure Blower for furnishing blast to furnace and forge.

In the Pattern Shop are four complete sets of tools, benches and vises, and at O a pattern lathe. In a separate building are forges, a moulder's bench with sand, and a brass furnace.

During the past year the projects described on page 34, have included the designing, drawing and construction of machines and cabinet models, as follows: Part of a Speed Lathe of two feet swing, and one Thermometer Graduating machine.

As commercial work the shop has turned out numerous well boring augers, forks and carriers, Grading machines, numerous repairs of Agricultural machinery, Steam Engines, &c.

MECHANICAL ENGINEERING COURSE.

FIRST YEAR.

1. Plane Trigonometry and Advanced Geometry; Projection Drawing; French.
2. Analytical Geometry; Descriptive Geometry and Drawing; French.
3. Calculus; Clay Modeling and Lettering; French.

SECOND YEAR.

1. Advanced Algebra and Analytical Geometry; Designing and Drawing; German.
2. Advanced Calculus; Shop Practice; German.
3. Advanced Calculus; Shop Practice and Astronomy; German.

THIRD YEAR.

1. Mechanism; Advanced Descriptive Geometry; Chemistry and Laboratory Practice.
2. Analytical Mechanics; Chemistry and Laboratory Practice; Physics.
3. Advanced Mechanics; Modern History; Physics.

FOURTH YEAR.

1. Resistance of Materials and Hydraulics; Geology; Thermodynamics, Pneum.
2. Prime Movers; History of Civilization; Construction Drawing.
Mill work: Drawings and Estimates; Physical Laboratory practice; Political Economy; Thesis.

SCHOOL OF CIVIL ENGINEERING.

OBJECT OF THE SCHOOL.

The School is designed to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice, which will enable students to enter intelligently upon the various and important duties of the Engineer. Those who desire a preparation, at once broad and thorough, and who are willing to make persevering efforts to obtain it, are cordially invited to connect themselves with this School.

INSTRUCTION.

The student should lay a broad foundation in general and disciplinary culture, which will enable him to pursue his professional studies with greater ease and advantage. With this view the subjects peculiar to Civil Engineering are not introduced until the second year.

The instruction is, as usual, given by lectures, text-books and reading, to which are added numerous problems and practical exercises, as serving best to completely explain subjects and fix them in the mind. Models and instruments are continually used, both in lectures and by the students themselves.

COURSE OF STUDIES.

The complete Course occupies four years. On page 39 will be found the tabular view, showing the arrangement of the subjects. The studies of the first three years will prepare students for undertaking many engineering operations, such as the building of railroads, canals, embankments, etc. The fourth year is intended to fit them for the higher engineering constructions, as the building of arches, trussed bridges, and supporting frames of all kinds.

Each year consists of thirty-six working weeks, divided into Fall, Winter, and Spring terms. The four years are divided among the different branches nearly as follows: Languages, 360 recitations; pure Mathematics, 369 recitations; Drawing of all kinds, 840 hours; Lectures with mathematical Analysis, 100 hours; Surveying, recitations, drawing and field practice, 200 hours; Physics, Mechanics, Hydraulics, Astronomy, Geology, Chemistry, Mental Philosophy, Logic, Political Economy, History, altogether 680 lectures, recitations and exercises.

Practice in the Chemical Laboratory, 110 hours. Engineering Projects, 240 hours. Besides the above there are various special exercises requiring time, the amount of which cannot be assigned. Each recitation requires one hour in the class-room, and to its preparation should be given an average time of three hours.

TECHNICAL STUDIES.

MATHEMATICS.—For a list of the principal subjects included under Pure Mathematics, see the Course given on page 39. The following are those included in Applied Mathematics: **DESCRIPTIVE GEOMETRY**—Problems on the Point, Right-Line, and Plane; Curved Lines and Surfaces; Tangents; Intersections; Warped Surfaces; Perspectives; Shades and Shadows; Practical Problems. **ANALYTICAL MECHANICS AND HYDRAULICS**—See School of Mechanical Engineering. **ASTRONOMY**—The Observatory; Instruments and their adjustments; Determination of time, latitude and longitude; Practical exercises. **GEODESY**—Figure of the Earth; Surveys of the Earth's Surface: Base-lines; Parallels and Meridians; Methods of the United States Surveys; Barometric Measurements. **LAND SURVEYING**—Arcs; Distances; Omissions and Corrections; Standard Units; Metrical System; Refraction; Curvature of the Earth; Theories of Surveying Instruments; Adjustment of Instruments. **R. R. SURVEYING**—Curves; Turnouts; Crossings; Obstructions; Slope Stakes; Earth-work; Grades; Curvature of Rails; Coning of Wheels; Calculation and use of Tables.

DRAWING.

PROJECTION DRAWING—Use of Instruments in applying the Elements of Descriptive Geometry; Use of Water Colors; Isometrical Drawing; Shades; Shadows and Perspective; Drawings finished in colors and by right-line shading; Bridges; Right and Oblique Arches. **FREE-HAND**—Landscapes, Buildings; Lettering and ornamental Work. **TOPOGRAPHICAL**—Sketching; Ink Drawings; Conventional Signs, etc. **MAPPING**—Railroad, and City and County Maps. **ARCHITECTURAL**—Designing and Drawing of Engineering Structures.

NATURAL SCIENCE.

PHYSICS AND DESCRIPTIVE ASTRONOMY—See Department of Physics and Astronomy. **CHEMISTRY**—Inorganic Chemistry and Qualitative Analysis. **GEOLOGY**—Elements of Physiographic, Lithological, Historical and Dynamical Geology.

ENGINEERING.

ROAD ENGINEERING—Location and Construction of Roads and Railroads; Grades; Gauges; Tunnels, etc. **RESISTANCE OF MATERIALS**—Elasticity; Safe Limits; Shearing Stress; Flexure and Strength of Beams and Columns; Practical Formulæ. **TRUSSES**—Analysis of a variety of Roofs and Frames, with methods of obtaining the strains. **BRIDGE CONSTRUCTION**—Warren's, Howe's, and other Trusses; Tub-

ular and Suspension Bridges; Arches, etc. **STONE-WORK**—Stone; Limes and Mortars; Foundations, etc.

PROJECTS.

During the Spring Term of the second year, an accurate Topographical Survey of a locality is made by the class, and instruction given in the use of the Level, preparatory to a project in Railroad Engineering, which is executed in the Fall Term of the next year. The Plane-table is used as in the U. S. Surveys.

The Project consists of a Preliminary Survey, Locations, Drawings and Estimates.

The Preliminary Survey will consist in an examination of the locality, and in running tangent lines, with leveling and topographical sketching.

The Location will consist in running the line over the route decided upon, with all the necessary measurements and calculations for establishing the grade, setting slope stakes, determining the amount of earth-work, designing the buildings, bridges, culverts, etc.

The drawings will include Alignment, Profile, Plans and Sections.

The Estimates will give the cost of ground, earth-work structures, rolling stock, etc.

A Project in Geodesy or Higher Engineering will be executed during the Senior year.

APPARATUS.

The School is provided with both English and American instruments for the different branches of Engineering Practice, and for the Astronomical work of Higher Surveying. It has numerous models for illustration of its specialties, and access to the cabinets of the other Schools. To facilitate the practice in Trigonometrical and Land Surveying, it has a specially prepared area, in which the difficulties of plane surveying are presented to the beginner as he is able to meet them, and where he is taught practical methods of overcoming them. This area is subdivided by a large number of lines, the positions of which are accurately known, but not by the student. He is then required to determine the position of the "corners" by various methods, and to calculate the enclosed areas. Other problems are given in determining inaccessible distances, passing obstacles, avoiding local attractions, etc., for which the ground is prepared. The number of divisions is so large that no two students need have the same problem, and so accurately laid out that the correctness of the student's work can at once be determined.

An Astronomical Observatory for meridian observations, and of suitable size for the practical exercises in Astronomy, has been erected and is in use. An equatorial telescope has also been mounted for the use of the students. A set of Smithsonian Meteorological instruments has been procured, placed in suitable positions, and observations commenced. A Universal Instrument for Astronomical and Geodetic work is being made for the use of the Senior classes, by Messrs. Ertel and Son, Munich. It will read to seconds of arc both in altitude and azimuth by four micrometers, and will in all respects be a superior instrument, adapted to the most accurate work.

CIVIL ENGINEERING COURSE.

FIRST YEAR.

1. Same as in Mechanical Engineering.

SECOND YEAR.

1. Advanced Algebra and Analytical Geometry; Land Surveying; German.
2. Advanced Calculus; Drawing; German.
3. Advanced Calculus and Spherical Trigonometry; Topographical Surveying and Astronomy; German.

THIRD YEAR.

1. Advanced Descriptive Geometry; Chemistry and Laboratory Practice; Railroad Surveying.
2. Analytical Mechanics; Chemistry and Laboratory Practice; Physics; Weekly exercises in Practical Astronomy.
3. Analytical Mechanics; Modern History; Physics; Weekly exercises in Practical Astronomy.

FOURTH YEAR.

1. Resistance of Materials and Hydraulics; Geology; Geodesy.
2. Bridges; Hist. of Civilization; Meteorology and Physical Geography.
3. Stone work; Physical Laboratory and Thesis; Political Economy.

SCHOOL OF MINING ENGINEERING.

OBJECT AND INSTRUCTION.

This School is intended to qualify the student for undertaking mining operations of all kinds. Its instruction consists of a thorough training in the principles of theoretical and applied chemistry, of chemical and blow-pipe analysis, of assaying and metallurgy, and of the engineering operations of mining.

STUDIES AND APPARATUS.

The course of studies embraces both the engineering and metallurgical studies, with practical exercises in analysis and assaying.

The Cabinet of models, costing \$2,000 is from a celebrated European maker.

For the Course in Mining see page 42.

SCHOOL OF ARCHITECTURE.

OBJECT OF THE SCHOOL.

The school is intended to prepare students to pursue successfully the profession of Architecture. For this a thorough knowledge of scientific principles applied to building, ability and correct taste in design and full technical knowledge of the work of the various building trades, with skill in the use of tools are absolutely necessary, and are made the prominent features of the course of instruction.

INSTRUCTION.

The technical studies are chiefly given by lectures, illustrated by sketches, models or engravings, and a practical application is immediately made by the student.

Drawing is constantly studied and practiced throughout the course, and as far as possible, original work is executed. Drawing from casts and modeling in clay, give facility in sketching details and correct knowledge of form.

In shop practice, designs are made by the student, and worked out in wood to reduced scale of roofs, stairs, &c.

The course of study in Mathematics, Mechanics, Resistance of Materials, Physics, &c., is identical with that in the other schools of Engineering.

TECHNICAL STUDIES.

DRAWING FROM CAST—Out-line sketches and finished drawing in pencil and crayon.

MODELING IN CLAY—From casts and original designs; weekly exercises in designing architectural ornaments.

WOOD CONSTRUCTION AND DRAWING—Construction and finish of wooden buildings, roofs, ceilings, domes, towers, stairs, &c., &c.

Two lectures, eight hours practice in preparation of working drawings per week.

IRON, BRICK AND STONE CONSTRUCTION AND DRAWING—Buildings of brick, stone and iron for ordinary purposes, walls, arches, stone work, iron fronts, &c., &c.

Two lectures, eight hours drawing weekly, shop practice, original design in wood, construction by students and making model of the same to scale.

ARCHITECTURAL DRAWING—Preparation of full sets of finished drawings from sketches; weekly exercises in design of architectural details.

ARCHITECTURAL DESIGNING—Working out of original design for specified project and preparation of complete finished drawings.

ANCIENT ARCHITECTURE AND DRAWING, fall term. **MEDIAEVAL ARCHITECTURE AND DRAWING**, winter term. **MODERN ARCHITECTURE AND DRAWING**, spring term.

Three lectures weekly, on History of architectural style; the construction and decoration employed; most important examples; ideas applicable to American architecture.

Seven hours weekly practice in drawing details of various styles. Exercises in design in application of principles.

ÆSTHETICS OF ARCHITECTURE—Three lectures weekly on Æsthetics applied to architecture. Laying out grounds, planning buildings for various purposes, grouping their parts, external and internal decoration, harmonies of color. General principles of decoration by form and color, for wall paper, hangings, carpets, &c., &c.

Daily exercises in original design for above subject. **ESTIMATES**, practice of measuring, model of valuing materials and labor of all kinds of builders work, practice in making out full sets of estimates. **AGREEMENTS AND SPECIFICATIONS**, preparation of complete sets. **HEATING AND VENTILATING**, fuels, motion of air in flues, best modes of heating and ventilation.

FIRE PROOF CONSTRUCTION.

Constructions in stone, brick and iron, for most important buildings, arches, domes and vaults in brick and stone and their centers, fire proof floors, ceilings, roofs, &c. Lectures and drawing.

SPECIAL EXERCISES.

Specimen plates will be required of each student at the close of each term in drawing, to form a part of his record. Vacation journals will be required at the beginning of 3rd and 4th years; to be retained by the University. All such papers must be on paper of regulation size.

APPARATUS.

A fine collection of casts in plaster, of various architectural details, from Lehr of Berlin. Models of roofs, trusses, stairs, &c. &c.

The use of the casts, photographs &c., of the Art Gallery. A library containing many of the best English, German, French and American Architectural works, and periodicals, such as *Daly's Motifs Historiques*, *Architecture Privee*, *Racinet Ornement Polychrome*, *Builder*, *Civil Engineer's and Architect's Journal*, *Workshop*, *Skizzenbuch*, *Encyclopedie d'Architecture*, *Penley's Water Color Painting*, &c., &c.

A large Carpenter and Cabinet shop containing full sets of tools; six sets of model making tools, foot lathe with slide rest, chuck, drills, &c., cross and splitting saws, planer, moulding and tenoning machine, lathe, whittler, &c.

BUILDER'S COURSE.

By permission of the Trustees persons desiring to fit themselves for Master Builders are allowed to take a course of a single year pursuing such technical studies of the course in architecture as they may be prepared to enter upon with profit and as will be most advantageous to them.

Candidates for the Builder's course must pass the examinations in the common branches, but need not pass in the Studies of the Preliminary year unless they shall desire to pursue other studies, than those marked in the following:

BUILDER'S COURSE.

1. Projection Drawing, 10; Wood Construction and Drawing, 10; Architectural Drawing, 10.
2. Stair Building and Wood Construction and Drawing, 10; Architectural Drawing, 10; Estimates, 5.
3. Modelling and Drawing, 10; Architectural Designing, 10; Shop practice in Stair Building, 10.

ARCHITECTURAL COURSE.

FIRST YEAR.

1. Plane Trig. and advanced Geometry, 5; Projection Drawing, 10; French, 5.
2. Analytical Geom. 5; Descriptive Geom. and Drawing, 10; French, 5.
3. Calculus, 5; Modelling and Drawing, 10; French, 5.

SECOND YEAR.

1. Adv. Alg. and Anal. Geom., 5; Wood Construction and Drawing, 10; Modelling, 10.
2. Adv. Calculus, 5; Stone, Brick and Metal Construction and Drawing, 10; Designing Ornaments, 10.
3. Adv. Calculus, 5; Architectural Drawing, 10; Shop practice, 10.

THIRD YEAR.

1. Ancient Architecture and Drawing, 10; Desc. Geom. and Drawing, 10; Architectural Drawing, 10; Vacation Journal.
2. Medieval Arch. and Drawing, 10; Analytical Mechanics, 5; Physics, 5.
3. Modern Arch. and Drawing, 10; Analytical Mechanics, 5; Physics, 5.

FOURTH YEAR.

1. Resistance of Materials, Hydraulics, 5; Esthetics of Arch., 10; Arch. Designing, 10. Vacation Journal.
2. Estimates, 5; Agreements and Specifications, Heating and Ventilation, 5; Arch. Designing, 10.
3. Fire proof Construction and Drawing, 10; Physical Laboratory practice, 10; Political Economy, 5; Thesis.

MINING ENGINEERING COURSE

FIRST, SECOND AND THIRD YEARS,

Same as Course in Civil Engineering.

FOURTH YEAR.

1. Resistance of Materials and Hydraulics; Geology; Chemical Laboratory practice.
2. Mining Engineering; Draining; Chemical Laboratory.
3. Chemical Laboratory; Physical Laboratory and Thesis; Political Economy

SCHOOL OF CHEMISTRY COURSE.

FIRST YEAR

1. Chemistry and Laboratory Practice: Trigonometry and Advanced Geometry; British Authors.
2. Chemistry and Laboratory Practice; Analytical Geometry; American Authors.
3. Organic Chemistry and Laboratory Practice; Calculus; Rhetoric.

SECOND YEAR.

1. Laboratory practice; Projection Drawing; German.
2. Laboratory practice; Zoology; German.
3. Laboratory practice; Zoology; German.

THIRD YEAR.

1. Laboratory Practice; Mineralogy; German.
2. Agricultural Chemistry; Physics; Practical Laboratory.
3. Animal Physiology; Physics; Laboratory practice.

FOURTH YEAR.

1. Geology; Laboratory work; Mental Science.
2. History of Civilization; Meteorology and Physical Geography; Laboratory work.
3. Political Economy; Logic; Laboratory work and Thesis.

COLLEGE OF NATURAL SCIENCE.

FACULTY.

THE REGENT.
PROFESSOR BURRILL.
PROFESSOR S. W. ROBINSON.
C. I. HAYS.
M. A. SCOVELL.

PROFESSOR TAFT.
PROFESSOR WEBER.
I. O. BAKER
A. E. BARNES.

SCHOOLS.

SCHOOL OF CHEMISTRY.

SCHOOL OF NATURAL HISTORY.

SCHOOL OF CHEMISTRY.

OBJECT OF THE SCHOOL.

The object of this school is to impart such theoretical and practical knowledge of Chemistry as will enable the student to apply the principles of the science to any of the related arts, and to fit him not only for the field of original research, but for the practical business of the Druggist, Pharmaceutist and Practical Chemist.

A tabular view of the complete course is given on the next page.

The instruction in the principles of Chemistry and Chemical Physics, including five recitations a week, will occupy six weeks of the first term of the first year. For the remainder of the year the recitations will alternate with laboratory practice. During the remaining three years each student is expected to work two hours daily in the laboratory, five days in the week, and in order to graduate, each is expected, at the close of the course, to make an original investigation, and to write a thesis.

Students who pursue Chemistry only as a part of other courses, will find it to their advantage to work at least two consecutive hours daily during such time as their specialty may require.

TEXT-BOOKS—Rose's Chemistry; Douglas & Prescott's Analysis; Fresenius' Analysis; Miller's Chemistry; Rose's Analysis.

BOOKS OF REFERENCE—Gemelin's Handbook of Chemistry; Graham-Otto's Ausführliches Lehrbuch der Chemie; Watt's Dictionary of Chemistry; Lehmann's Physiological Chemistry; Percy's Metallurgy; Mitchell's Practical Assaying; Wormley's Micro-Chemistry of Poisons; Taylor on Poison.

To accommodate those who have a particular object in view, this department has three special courses of Laboratory work arranged as follows:

AGRICULTURAL.

1. Inorganic, Organic and Agricultural Chemistry; Qualitative and Quantitative Analyses of Salts; Chemical Physics.
2. Analysis of Clays, Marls, Mineral Waters, Manures, Soils and Vegetable Products.
3. Isolation of Organic Acids and Bases; Estimation of Hydrogen, Carbon, Sulphur, Sugar, Tannin, etc.
4. Analysis of Air, Illuminating Gas, etc.; Study of Poisons.

TECHNICAL AND PHARMACEUTICAL.

1. The same as AGRICULTURAL, except Agricultural Chemistry.
2. Quantitative Analysis of Dolomite, Marl, Silicates, and Ores; Preparation of Acids, Alkalies and Salts.
3. The same as in AGRICULTURAL, with Electroplating, Bleaching, Dyeing, Tanning and Assaying.
4. Same as in AGRICULTURAL, with Photography.

METALLURGICAL.

1. Inorganic Chemistry; Chemical Physics; Qualitative and Blowpipe Analyses of Alloys, etc.
2. Analysis of Gold, Silver, Copper and other Ores, also Slags of Furnaces; Assays of Bullion, and Ores of Zinc, Antimony, Tin, etc.
3. Analysis of Iron; Steel, Nickel, Cobalt, etc., Fuel; Electro-Metallurgy; Preservation of Wood; Lime, Mortar, and Cements.
4. Same as in AGRICULTURAL.

APPARATUS.

The facilities offered here for obtaining a practical knowledge of Chemistry are confidently believed to be unsurpassed by those of any other institution in the west. A second laboratory has recently been fitted up for advanced students, in quantitative analysis. In addition to the usual apparatus found in every laboratory, is an extensive series of instruments recently purchased in Europe, including a large platinum retort for the preparation of hydrofluoric acid; a Dove's polarizer, with a complete suit of accompanying apparatus; a Geissler's mercurial air pump; Hoffman's apparatus for illustrating in the lecture room the composition of compound gases; a Soleil-Scheibler's saccharimeter of the most recent and approved construction; an excellent set of areometers; a Haüy's goniometer; a camera with Ross' lenses; a Ruhmkorff's coil; galvanic batteries of Grove and Bunsen; also a potassium dichromate battery, a galvanometer and a thermo-electric pile; a spectroscope and a large binocular microscope; two additional chemical balances, peculiar in the shortness of their beams, and remarkable for the accuracy and rapidity with which weighing can be executed with them. A Natterer's carbon dioxide condenser, and an extensive set of metallurgical apparatus, consisting of models of furnaces, etc., have recently been received. A full set of Photographic Apparatus has been provided and a large number of views have been taken.

The Library of the School has recently been enriched with complete sets of standard scientific works; the *Annalen der Chemie und Pharmacie*; the *Jahresbericht ueber die Fortschritte der Chemie*; *Dingler's Polytechnic Journal*; the *Handwörterbuch der Chemie*; *Percy's Metallurgy*; *Siliman's Journal*. See Table of Contents for the list of periodicals taken. (For Chemical Course see page 42.)

SCHOOL OF NATURAL HISTORY.

OBJECT OF THE SCHOOL.

The aim of this School is to educate and prepare practical geologists, collectors and curators of cabinets and museums of natural history, and superintendents of scientific explorations and surveys.

The studies in this department begin with the first year in the Colleges of Natural Science and Agriculture. The increased prominence given to this class of studies by the school laws of the State, will be met by increased efforts to make the instruction as thorough and practical as possible. The following branches are taught:

1.—BOTANY—Essential parts of plants; Modifications of the root, stem, leaves, flowers, fruits, etc., Laws of Morphology and Terminology; Structural, Physiologic and Systematic Botany; Microscopic Vegetable Anatomy; Life-work of plants; Classification and distribution of the flowering plants.

2.—BOTANY—Flowerless plants; Anatomy and physiology of injurious plants; Lectures upon vegetable physiology; Practical work with microscopes. LECTURES introductory to the study of Natural History. Illustrated lectures on Human Anatomy and Physiology. Systematic ZOOLOGY—Principles of Classification; Characteristics of Departments, Classes, Orders, etc. ENTOMOLOGY of injurious and beneficial insects.

3.—COMPARATIVE ANATOMY—Modification of plan by which animals are adapted to the various conditions of existence, in respect to respiration, circulation, embryology, peculiar modes of reproduction and development, geological and geographical distribution, etc. GEOLOGY—Forces known to produce observed phenomena in the crust of the earth; Characteristics of the rocks, stratified and unstratified, constituent elements, crystalline structure, etc. Historic Development of the Earth, as revealed by Palæontology, or the entombed Fossils of the primeval inhabitants.

4.—GEOLOGY—History of the origin and progressive phases of the Science. PHYSICAL GEOGRAPHY and METEOROLOGY—Principles of the phenomena manifest in the Life of the Earth, or of the Earth's Physiology.

INSTRUCTION.

The instruction is given by lectures and text-books, and excursions are made under charge of the professors. Vacation journals and memoirs are required as in the College of Engineering.

APPARATUS.

Collections of specimens and illustrative apparatus have been provided by purchase, manufacture and donation.

In BOTANY the School has an extensive and valuable Herbarium collected by several expeditions, and largely increased from other sources; also a Lignarium exhibiting woods in section. It has a fine collection of enlarged *papier-mache* models of flowers and fruits, made by Dr. Auzoux, of Paris, and dissected to exhibit perfectly the most minute organs and tissues. Among these are a pink, a papilionaceous flower, a cherry, a strawberry, a pea-pod with peas, a vetch legume, a grain of wheat, etc. The Green-houses, Arboretum and Botanical Garden, are opened to the students of this School.

In ZOOLOGY the Cabinets contain: a human skeleton, purchased in Paris, and a manakin made by Dr. Auzoux; skeletons of a cow and other mammals, and of birds; stuffed preparations of a large number of birds, mammals, fishes, reptiles, etc., a dissected horse's leg and hoof, a dissected eye, trachea, and vocal apparatus, in *papier-mache*, by Dr. Auzoux; collections of shells, fossils and insects.

In ENTOMOLOGY: The State Entomologist, required by law to make collections for the University, is preparing a full suite of specimens. A large number have been received.

In GEOLOGY: a complete collection of specimens from the State Geological Survey, and Prof. Ward's celebrated College Series of casts of famous fossils has been added by the generosity of one of the Trustees. In MINERALOGY, PALEONTOLOGY, etc.; large collections, with preparations of ores.

There is also a pair of large dissolving-view cameras with slides, for illustrating Astronomy, Geology, Zoology, and History.

COURSE IN SCHOOL OF NATURAL HISTORY.

FIRST YEAR.

1. Botany (Advanced); Chemistry; British Authors.
2. Cryptogamic Botany; Chemistry; American Authors.
3. Entomology; Chemistry; Rhetoric.

SECOND YEAR.

1. Advanced Anatomy and Physiology; German; Free-Hand Drawing.
2. Zoology; German; Drawing.
3. Zoology; German; Astronomy and Modelling.

THIRD YEAR.

1. Mineralogy; German; Ancient History.
2. Geology; German; Physics.
3. Geology; Physics; Modern History.

FOURTH YEAR.

1. Geology; Constitutional History; Mental Science.
2. Meteorology and Physical Geography; History of Civilization; Microscopy.
3. Political Economy, Logic; Laboratory Work and Thesis.

COLLEGE OF LITERATURE AND SCIENCE.

FACULTY.

THE REGENT.	PROFESSOR PICKARD.
PROFESSOR SNYDER.	PROFESSOR CRAWFORD.
PROFESSOR WEBER.	PROFESSOR BURRILL.
PROFESSOR SHATTUCK.	PROFESSOR TAFT.
	INSTRUCTOR PATCHEN.

SCHOOLS.

SCHOOL OF ENGLISH AND MODERN LANGUAGES.
SCHOOL OF ANCIENT LANGUAGES AND LITERATURE.

ADMISSION.

Candidates for admission to either of these Schools must have the qualifications prescribed on page 24 and for the School of Ancient Languages and Literature, they will, in addition, be examined in Latin Grammar, Elementary Latin Prose Composition (Harkness or Arnold), four books of Cæsar's Commentaries, six orations of Cicero, and six books of the *Æneid*, or other selections from the same or other authors of equal amount and like character, also, in Greek Grammar, three books of Xenophon's *Anabasis*, and twenty-four exercises in Arnold's Greek Prose Composition.

The object of this College is to furnish a sound and liberal education to fit students for the general duties of life, and especially to prepare them for those business pursuits which require a large measure of literary and scientific knowledge and training. It is designed to meet the wants of those who wish to prepare themselves for the labors of the press as editors or publishers, for teachers in the higher institutions, or for the transaction of public business.

Students in the agricultural and other technical schools desiring to educate themselves as teachers, writers, and professors in their special departments, require a knowledge of the Ancient, as well as the Modern Languages, to give them full command of all the instruments and facilities required for the highest proficiency in their studies and proposed work. The University seeks through these schools to provide for this important part of its mission—the furnishing of teachers to the industrial schools of the country, and investigators and writers for the Arts. The large liberty allowed in the section of the special studies of his course will permit the student to give such direction to his education as will fit him fully for any chosen sphere or pursuit.

INSTRUCTION.

The plan of instruction embraces, besides the ordinary text-book study, lectures and practical exercises in all the departments, including original researches, essays, criticism, proof reading, and other work intended to illustrate the studies pursued, and exercise the student's own powers. It is designed to give to all the students voice culture and a training in elocutionary practice.

A prominent aim in this, as in all the departments of the University, will be to teach the right use of books, and thus prepare the student for self-directed investigation and study which will extend beyond the curriculum of his school and the period of his graduation. With this view, constant use of the already ample and continually enlarging stores of the Library will be required and encouraged. As a farther aid in this direction the members of the advanced English classes are expected to act as assistant librarians. In this service they are able to obtain much valuable knowledge of the various departments of English Literature, of prominent authors, and the extent and scope of their writings. Of special value as an incentive to, and the means of practice in English Composition, should be mentioned *THE ILLINI*, a monthly paper edited and published by the students of the several colleges, each of which is appropriately represented in its columns. A printing office has been provided for in the new Mechanical Building, and a press with the requisite supply of type.

THE LIBRARY is well supplied with works illustrating the several periods of English, American, French and German Literature. It contains at present nearly ten thousand well selected volumes, and is constantly growing by purchase at home and abroad. Valuable American and Foreign periodicals are received regularly in the Reading Room, a list of which is given on page 20.

SCHOOL OF ENGLISH AND MODERN LANGUAGES.
ENGLISH LANGUAGE AND LITERATURE.

In the arrangement of the studies the endeavor is to present a thorough and extended drill in grammatical and philological study, and in the authors and history of the English Language, affording a training equivalent to the ordinary studies of the classical language. This drill extends through three years of the course, but may be shortened according to the ability and preparation of the student. Weekly essays, forensics, plans and criticisms are required.

The studies will embrace the Sources and History of the English language; advanced Grammar; principles of Composition; Philological and Grammatical Analysis of Authors; History of their times and Contemporaries.

Rhetoric, Reading and Analysis of Shakspeare and the early Dramatists, Spenser, Chaucer, Gower, etc., and a term of Anglo Saxon.

History of English and American Literature; Element of Criticism; Principles of Taste; Methods of Philological Study, etc.

FRENCH AND GERMAN.

The modern languages taught in this School, are confined to one year of French and two years of German, but the student may, at his option, substitute a second year of French for one year of German. Abundant practical exercises are given both in composition and translation, and the diligent student gains the power to read, with ease, scientific and other works in these languages, and may, with a little practice, write and speak them with correctness. A constant attention is also given to the common Etymologies of these languages and the English, and thereby a large advantage is gained by the student in linguistic culture. "He who knows only one language," said Goethe, "he knows not even that one properly."

In the first year the student passes over a complete grammar and reader, acquiring a knowledge of the technicalities of the idiom, and a sufficient vocabulary for the use of the books of reference within the course. The second year is devoted to a critical study of the languages and philological analysis, and to a course of select classic reading, composition and conversation.

COURSE OF SCHOOL OF ENGLISH AND MODERN LANGUAGES.

FIRST YEAR.

1. British Authors; French: Trigonometry and Advanced Geometry.
2. American Authors: French; Analytical Geometry.
3. Rhetoric: French: Entomology or Drawing.

SECOND YEAR.

1. English Classics: German: Physiology.
2. English Classics: German: Zoology.
3. English Classics: German: Astronomy.

THIRD YEAR.

1. German: Chemistry: Ancient History.
2. German; Chemistry or Physics: Mediæval History.
3. German: Physics: Modern History.

FOURTH YEAR.

1. Anglo Saxon: Mental Science; Constitutional History.
2. English Literature; History of Civilization; Meteorology and Physical Geography.
3. Esthetics; Logic; Political Economy: Thesis or Oration.

SCHOOL OF ANCIENT LANGUAGES AND LITERATURE.

In the School of Ancient Languages and Literature, the methods of instruction, without swerving from their proper aim, to impart a sufficiently full and critical knowledge of the Latin and Greek languages and writings, will make the study of these tongues subservient, in a more than usual degree, to a critical and correct use of the English. With this view written translations, carefully prepared, with due attention to differences, equivalences and substitution of idioms, and the comparison and discrimination of synonyms, will form part of the entire course.

COURSE OF SCHOOL OF ANCIENT LANGUAGES.

FIRST YEAR.

1. Cicero de Amicitia and prose composition; Xenophon's Anabasis and prose composition; Trigonometry and Advanced Geometry.
2. Livy and prose composition; Herodotus and prose composition; Anylitical Geometry.
3. Odes of Horace and prose composition; Thucydides and prose composition: Calculus.

SECOND YEAR.

1. Satires of Horace: Iliad or German: Physiology.
2. Terence: Iliad or German: Zoology.
3. Tacitus; Demosthenes or German: Astronomy.

THIRD YEAR.

1. Juvenal or French: Chemistry: Ancient History.
2. Quintilian or French: Physics: Mediæval History.
3. De Officiis or French: Physics: Modern History.

FOURTH YEAR.

1. Constitutional History: Mental Science: Geology.
2. History of Civilization; Meteorology and Physical Geography: Plato.
3. Esthetics: Logic: Political Economy; Oration or Thesis.

OTHER SCHOOLS,

NOT INCLUDED IN THE FOUR COLLEGES.

SCHOOL OF MILITARY SCIENCE.

By the law of Congress and of the State, the University is required to teach Military Tactics to its male students. All able-bodied male students of the College classes are enrolled in the companies of the University Battalion, and receive instruction according to the following programme, the exercises occupying one or two hours each week; (see figures in programme).

PROGRAMME.

FIRST YEAR.—*Fall Term*—School of Soldier, Manual of Arms, 2. *Winter Term*—School of Company, Firings, etc, 2. *Spring Term*—School of Battalion, 2.

SECOND YEAR.—*Fall Term*—Reviews of Company and Battalion Drill, 2. *Winter Term*—Bugle calls and Skirmish Drill, 1. *Spring Term*—Skirmish Drill and Battalion Evolutions, 2.

THIRD YEAR.—*Fall Term*—Review, Picket Duty, 1. *Winter Term*—Guard and Picket Duties, 1. *Spring Term*—Skirmish and Battalion Evolutions, 1 to 2.

FOURTH YEAR.—*Fall Term*—Reviews, Bayonet Fencing, 1. *Winter Term*—Bayonet Fencing, 1. *Spring Term*—Battalion Evolutions, Target Practice, 1 to 2.

There is now formed a battalion of eight companies, officered by the students of the class in Military Science.

CLASS IN MILITARY SCIENCE.

A special class is taught in Military Science and Art, as far as is requisite for officers of the line. From the members of this class are

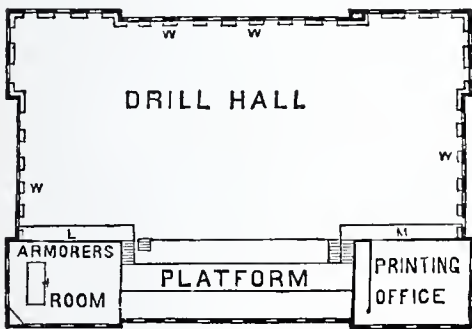
selected the officers of the several companies, for which they act as drill sergeants and instructors in tactics.

No student is eligible to the military class till he has reached the winter term of the second or Sophomore year, and is in good standing in all his studies. The course of instruction is confined strictly to two years, terminating always with the first term of the fourth or Senior year. No student will be permitted to retain a command who does not maintain a good standing in conduct and scholarship.

The Governor of the State is accustomed to commission as Captains in the state militia, such students of the Military Class as may have completed the course thoroughly, and have obtained the necessary experience in command, and whom the Faculty of the University may recommend for their high character both as students and as gentlemen.

The instruction and exercises occupy two hours each week, so arranged as not to interfere with any courses of study, making it possible for the members of other courses to enter this.

APPARATUS.



MECH. & MILITARY BUILDING,
2D FLOOR.

THE DRILL HALL is 124 by 75 feet. 350 rifle muskets are ranged around it in racks, W. There are also cavalry swords, fencing swords and muskets, an armory with a growing collection of arms, and models of arms and projectiles for practical instruction. Below the Armorer's room is the Artillery room, and above it the Band room. The Platform and Galleries, L, M, will accommodate over 300 visitors.

The University Library contains books on Military Science, Military History and Engineering.

A GYMNASIUM, at present in the Drill Hall, has been furnished with apparatus, and classes are organized under a skilled leader. A fee of fifty cents a term is charged.

In connection with the Military Department there is a Telegraph office in the new University Building, with accommodations for learners, and connections with the Mech. and Mil. building, the Dormitory and several private houses, making about 3 miles of telegraph lines. The students form an association or class, and the members join the University main line, using their own instruments in their rooms. The class appoint their own officers, inspectors, etc., and pay a small contribution for maintaining batteries, etc. At present there are 27 instruments on the line.

COURSE IN THE SCHOOL OF MILITARY SCIENCE

SECOND YEAR.

2. School of the Soldier and Company; Bayonet fencing. 2.
3. School of Battalion; Ceremonies and Reviews; Skirmish Drill. 5

THIRD YEAR.

1. Brigade and Division Evolutions; Sword Fencing. 2.
2. Guard outpost and picket duty; Sword fencing. 2.
3. Military Administration; Reports and Returns; Theory of fire-arms; Target practice. 2.

FOURTH YEAR.

1. Organization etc., of Armies; Art of War; Field Fortification. 2.

SCHOOL OF COMMERCE.

The aim of this school is to teach those principles of business, and of accounts, which will enable the student to manage correctly his business affairs, to engage in the larger enterprises of trade and commerce, or to fit him for the work of a professional Book-keeper.

The course of instruction will occupy at least one year. In the first term will be taught the principles of Book-keeping in general, and forms of business paper in general use. In the second term the student will learn the application of Book-keeping to special lines of business, and also special business forms and papers. The third term is devoted to Banking and the higher operations of the counting house, commercial law, political economy and the principles of trade. The course is designed to be as comprehensive and thorough as that of the best of the Commercial Colleges, with advantages such as no mere commercial college can give.

Students who wish to prepare for a Commercial career and to acquire the general education which such a career demands, may and should extend this course of studies through two or more years, by adding such studies in mathematics, languages, literature and science, as will give a more complete education, and fit them for the higher walks of their chosen vocation.

Candidates for admission to this School, in full standing, must have the same preparation as that required for admission to the College of English and Modern languages. But those who wish simply to take the year's course in Book-keeping may pursue the study through the Preliminary Year, and in connection with the studies of that year, paying the fees required of preparatory students.

The full course of the school is as follows:

1. Book-keeping by Single and Double Entry, theory of mercantile accounts, the Principal Books and Auxiliaries, Cash Book and Bill Book; Notes, Drafts, Bills of Exchange and Accounts Current; Penmanship, Chemistry; British Authors.
2. Practical Business, Commission Business and Shipping, Importing and Jobbing; Invoice Book, Domestic and Foreign; Sales Book, Receiving Book, Commission Sales Book; Invoice, Account Sales, Business Correspondence, Commercial Calculations; Drawing; American Authors.
3. Banking; Form of Legal Paper and Commercial Law; Rhetoric; Political Economy.

SCHOOL OF DOMESTIC SCIENCE AND ART.

This School was put into practical operation two years ago, under the chief instruction of Miss Lou C. Allen, late preceptress of the Peoria County Normal School. Classes have been taught through these years, and a full course of studies has been arranged.

This school proceeds upon the assumption that the house-keeper needs education as much as the house-builder, the nurse as well as the physician, the leaders of society as surely as the leaders of senates, the mother as much as the father, the woman as well as the man. We discard the old and absurd notion that education is a necessity to man, but only an ornament to woman. If ignorance is a weakness and a disaster in the places of business where the income is won, it is equally so in the places of living, where the income is expended. If science can aid agriculture and the mechanic arts to use more successfully nature's forces and to increase the amount and value of their products, it can equally aid the house-keeper in the finer and more complicated use of those forces and agencies, in the home where winter is to be changed into genial summer by artificial fires, and darkness into day by costly illumination; where the raw products of the fields are to be transformed into sweet and wholesome food by a chemistry finer than that of soils, and the products of a hundred manufactories are to be put to their final uses for the health and happiness of life.

It is the aim of the School to give to earnest and capable young women an education, not lacking in refinement, but which shall fit them for their great duties and trusts, making them the equals of their educated husbands and associates, and enabling them to bring the aids of science and culture to the all important labors and vocations of womanhood.

The purpose is to provide a full course of instruction in the arts of the household, and the sciences relating thereto. No industry is more important to human happiness and well-being than that which makes the home. And this industry involves principles of science, as many and as profound as those which control any other human employment. It includes the architecture of the dwelling house, with the laws of heating and ventilation; the principles of physiology and hygiene, as applied to the sick and the well; the nature, uses, preservation and preparation of animal and vegetable food, for the healthful and for invalids; the chemistry of cooking; the uses, construction, material and hygiene, of dress; the principles of taste as applied to ornamentation, furniture, clothing and landscapes; horticulture and culture of both house and garden plants; the laws of markets; the usages of society and the laws of etiquette and social life.

Drawing is taught by a skilled instructor; Music can be had as an "extra." Vacation Journals will be required as in the otherschools.

HEALTH AND PHYSICAL TRAINING.

A spacious Gymnasium for young women has been fitted up in the library wing, and instruction in calisthenics is given to two or

more classes daily. Lectures on health, and its conditions, and on other important topics, will be delivered to those classes at suitable intervals, and great pains will be taken to secure, to the utmost possible extent, physical vigor, robust health, and a graceful carriage, and to prepare young women to take enlightened care of their own health and of the health of others under their charge.

Students are requested to come provided with a Gymnastic Suit. The texture of this should be woolen, but other material may be used if lined with flannel. To secure the required freedom of motion, a loosely fitting waist is recommended. The seam on the shoulder should be short, and the belt should measure three or four inches more than the body, to allow the free use and expansion of the respiratory organs. The skirt should reach within nine or ten inches of the floor, and measure three and one-half or four yards around the bottom. Dark solid colors which permit the use of bright trimmings are usually adopted. The preferred uniform is a dark steel gray flannel, or ladies' cloth, trimmed with narrow scarlet braid.

The Trustees desire that all female Students shall participate in these exercises unless excused for good cause. They have been witnessed and heartily approved by some of the most eminent medical men in the State.

COURSE IN DOMESTIC SCIENCE AND ART.

FIRST YEAR.

1. Chemistry; Advanced Botany; British Authors.
2. Chemistry; Advanced Botany; American Authors.
3. Free-hand Drawing; Entomology; Rhetoric.

SECOND YEAR.

1. Chemistry of Foods; Physiology; German.
2. Principles of Cooking; Zoology; German.
3. Domestic Hygiene; Architectural Drawing; German.

THIRD YEAR.

1. Projection Drawing; Ancient History; German or French.
2. Physics; Medieval History; German or French.
3. Physics; Modern History; German or French.

FOURTH YEAR.

1. Household Esthetics; Mental Science; Constitutional History.
2. Household Science; History of Civilization; Home Architecture.
3. Domestic Economy; Usages of Society, &c.; Political Economy; Landscape Gardening.

DEPARTMENTS OF STUDY.

To gain a more compact and complete statement of some of the branches of Study, and especially of such as do not give name to Schools, they are arranged here under the head of Departments of Study. In some cases also these studies may be pursued farther than is provided for in the regular courses of the several Schools. The general course and full extent of the instruction provided in any of these studies can be seen by consulting the following statements.

HISTORY AND SOCIAL SCIENCE.

The historical studies afford a general view of the history, social organization and progress of the race. They embrace also the history of the Arts and Sciences, and of Civilization, the principles of civil polity and law, the philosophy of history, and the principles of political economy and constitutional law. The instruction is given chiefly by lectures, with readings of specified authors, and the study of historical geography and chronology. The course occupies three terms in the third and fourth years of the University Courses.

3d YEAR. Ancient History of Greece and Rome, with notices of other nations; Ancient Geography, Mediæval History, Modern History, general European History, European Geography.

4th YEAR. Constitutional History of England and the United States, five lectures a week. History of Civilization, analysis of historical forces and phenomena, notices of the arts and of the inductive sciences, Political Economy.

PHILOSOPHY AND LOGIC.

The studies of this department are taught chiefly by lectures, with readings of specified authors, and written essays. These studies require much maturity of powers and are therefore confined to the fourth year of the course.

Mental Philosophy. Analysis and classification of mental phenomena; Theories of perception, imagination, memory, judgment, reason, intuition. Doctrines of the absolute and the unconditioned. Mental Physiology or connection of Body and Mind, healthful conditions of thought, growth and decay of mental and moral powers. Philosophy of Education. Moral Philosophy. Theory of Conscience, Nature of Moral obligation, Moral feeling. The Right. The Good. Practical ethics; Duties. Formation of character. Ancient Schools of Philosophy, Scholasticism, Modern schools of philosophy. Influence of philosophy on the progress of civilization and on modern sciences and arts.

Principles of Logic, conditions of valid thinking, forms of arguments, fallacies and their classification. Inductive and Scientific

reasoning; principles and methods of investigation. Practical applications of logic in the construction of argument, in the detection and answer of fallacies, and in the formation of habits of thinking and the common judgments of life.

PHYSICS.

The department of physics is amply provided with illustrative apparatus for use in the lecture room, and an extensive Physical Laboratory has been instituted in the New Building. The laboratory is adjacent to the physical lecture room; connected by sliding doors so that the apparatus is convenient either for use in the lectures, or for the laboratory work. Instruction in physics embraces four kinds of work:

1. Recitation, four exercises a week in which a text-book is used as a guide.

2. Physical experiments one day each week, in which the student uses the instruments in testing the principles taught.

3. Illustrated experiments one evening each week in which the more costly apparatus is used before the whole class, in such experiments as are difficult to perform and which are most effective when prepared for an audience.

4. The higher physical experiments by advanced classes consisting either of researches, or of reviews of careful and elaborate experiments previously worked up by others.

To prepare for the last named work, the student should have pursued Physical studies at least one term in the first three.

The laboratory and the lecture room are in the first story above the chapel, and occupy the same amount of floor. The collection of instruments, costing over \$5,000, embraces Acoustic apparatus from R. Koenig of Paris; apparatus for Heat and Molecular physics from J. Salleron of Paris; for Light, Optics and Electricity from Stoehrer of Leipsic, and Browning and Newton of London; Pneumatic and Electrical apparatus from E. S. Ritchie of Boston; and a number of pieces prepared at the Mechanical Shops of the University. During the past year have been added Browning's Electric Lamp, and from Elliott Bros. London, Resistance Coils, Galvanometers, etc., for higher researches in Electricity.

ASTRONOMY AND GEODESY.

Temporary arrangements have been made for Observatory Practice by the erection of a small observatory and the mounting of instruments of convenient size for students' use. DESCRIPTIVE ASTRONOMY is given by lectures with a text-book. The Equatorial Telescope is in constant use during the favorable weather. PRACTICAL ASTRONOMY is given by lectures and practical work with the Meridian Circle, Sextant, Theodolite, and Engineers' Transits adapted to Astronomical work and by Astronomical Calculations. GEODESY is given by lectures, practice and calculations. Messrs. Estel & Son of Munich, Germany have nearly completed a first-class Universal Instrument for the use of the Senior engineers, which will read to single seconds of altitude and azimuth by four micrometer microscopes, and trigonometrical stations will be erected.

ENGINEERING AND ARCHITECTURE.

See School of Engineering and Architecture, pages 30 to 42.

CHEMISTRY AND NATURAL HISTORY.

See School of Chemistry and Natural History, pages 43 to 46.

PURE MATHEMATICS.

ADVANCED GEOMETRY. Application of Algebra to Geometry, Transversals, Harmonic Proportion, etc. **TRIGONOMETRY.** Analytical and Plane. Relations between the functions of an arc, Formation and use of tables, Solution of plane triangles. **ANALYTICAL GEOMETRY.** Construction of equation by means of co-ordinates; Discussion in a plane of the point, right-line circle, ellipse, parabola and hyperbola; Higher plane curves, cycloid, cissoid of Diocles, etc. **DIFFERENTIAL CALCULUS.** Differentials of algebraic and transcendental functions, Maclaurin's Theorem, Taylor's Theorem, Maxima and minima of functions of one variable, Equation of Tangents, normals, sub-tangents, sub-normals, etc.; Differentials of lines, surfaces and volumes. **INTEGRAL CALCULUS.** Integration of known forms and of rational fractions, Rectification of plane curves, quadrature of plane areas and surfaces of revolution, and cubature of solids of revolution.

ADVANCED ALGEBRA.

Binomial Theorem, Properties and summation of series. Exponential quantities, Logarithms. General theory and methods of solving equations. **ANALYTICAL GEOMETRY.** Loci in space; Surfaces of the second order. **DIFFERENTIAL CALCULUS.** Differentials and maxima and minima of functions of two or more variables, Osculatory curves radius of curvature; Evolutes, involutes, envelopes; Discussion of algebraic and transcendental curves and surfaces; Tangent plane and normal, partial differentials of surfaces and volumes. **INTEGRAL CALCULUS,** Integration of transcendental and irrational differentials; Differentials of higher orders; Differential equations; Rectification, quadrature and cubature in general; Calculus of Variations. Spherical Trigonometry, General Formulas; Solution of Spherical Triangle.

AGRICULTURE.

This department embraces a thorough course of instruction in the theory and practice of land culture and cropping in its several varieties; animal husbandry, including stock and dairy farming; sheep and swine husbandry; and the principals of stock breeding. It includes also the principles of the amelioration of soil, veterinary science, and the general management of farming estates.

2. **THE FARM**—Its measurements and mapping; Subdivisions—meadows, pastures, orchards, woodlands, gardens, etc., fences, hedges. Soil—Chemical elements and chemical treatment, classification, and mechanical treatment, plowing, etc. **FERTILIZERS**—Composition, manufacture, preservation and application. Drainage. **PLANT CULTURE**—Structure and physiology of plants; Classes of useful plants, their characteristics, varieties and values. Wheat culture; maize, grass, and root culture. Insects injurious to vegetation.

3. THE FARM—Farm implements—principles of structure and use. Road making. ANIMAL HUSBANDRY—Breeds and varieties of neat cattle, horses, sheep and swine; Principles of breeding, rearing, training, fattening, etc.; Chemical composition of food, and preparation of the several varieties; Poultry; Bees; Veterinary surgery and medicine. FRUIT GROWING. BOOK-KEEPING—Farm book, herd book, etc. RURAL LAW—Tenures and conveyances of land, highways, cattle, fences, noxious weeds, etc.; Laying out estates.

4. AGRICULTURAL ECONOMY—The relation of agriculture to the other industries and to commerce; The several branches of agriculture; Farm buildings; Climate; Influence of light, heat and electricity on soils and vegetable growth; Foreign and ancient farming; Dairy farming and general farm manufactures—cheese, butter, cider, vinegar, etc. History and literature of agriculture.

The instruction is aided by, and illustrated with practical exercises on the Experimental and Stock Farms, and in the management of fine and graded stock of several varieties. But it must be fully understood that it is no part of the business of the department to teach the mere manual process of plowing, hoeing, harvesting, etc.; these can be learned in the employ of some good practical farmer, such as may be found in every township.

HORTICULTURE.

The studies in this department will include the formation, management and care of gardens, hot-beds, propagating houses, green-houses, nurseries, orchards, tree plantations and ornamental grounds. The instruction will be from text-books and by lectures in the classroom, together with illustrations and applications in the propagating and green-houses, botanical garden and arboretum, and upon the vegetable and fruit grounds.

2. Composition and classes of soils, with reference to their uses; Fertilizers; Vegetable physiology, and laws of growth of plants; Chemical treatment of soils; Manufacture and application of manure; Laying out and mapping of grounds; Mechanical treatment of soils; Drainage; Insects injurious to vegetation.

3. Fruit growing; Planting and treatment of orchards; Forest culture; Management of Nurseries; Propagating, grafting, etc.; Plans of orchards, gardens, etc.; Records; Management of market and vegetable gardens; Small fruit culture.

4. Care of hot and green-houses; Propagating houses; Conservatories; Floriculture; Garden architecture; Ornamentation; Green-house work; Landscape gardening; Ancient and foreign horticulture.

DRAWING.

Complete Courses in Geometrical and Projection, Architectural, Engineering, Mechanical and Free-hand Drawing are given. FREE-HAND DRAWING is given by personal instruction in the execution, with pencil and crayon, of "studies" by celebrated French and German artists, and in drawing from plaster models and other objects. The selections are made from a large and valuable stock purchased in Europe.

MODELLING IN CLAY has been recently introduced as an adjunct study in the Architectural course. It is taught by Mons. J. Kenis, an educated Sculptor, a graduate of the Fine Art School of Louvain, in Belgium.

Lectures are given on the principles of Art and Designing, and the Students have a thorough course in original exercises in art composition and designing, and especially in industrial art. Practically all the studies of a School of Design are pursued with appliances and facilities which few such schools yet possess this side of the Atlantic.

MUSIC.

Instruction is provided for on the Piano and Organ. This is charged for at the rate of \$10 for term of 20 lessons; and if a University instrument is used for practicing, the charge per term for such use is \$2.50, with daily practice. The class meets weekly for public practice, and at the end of the term they are examined in public and marked, as in the other classes. Vocal music with a thorough course in voice culture, is taught by an accomplished instructor, Mrs. Fanny Hollister. The fee is fifty cents a lesson. The instruction is individual. Classes in vocal music are usually organized each term under good instructors.

MISCELLANY.

EXAMINATIONS.

Thorough, written examinations are held at the close of each term and whenever any study has been finally completed. Any student failing to answer correctly 75 per cent of the questions proposed, loses all credit for that study, and is precluded from proceeding with any other studies without special permission.

A record is kept of each student's terms work and standing, and from this his final certificate of graduation is made up.

CERTIFICATES.

Under the law, any one who remains a year at the University, and maintains a satisfactory standing in his studies and in character, is entitled, on leaving the University, to a certificate of his studies and standing.

The full certificate of the University will be given to those only who have satisfactorily completed a *four years'* course in some one of the colleges. Each certificate will state the college and course pursued, the actual studies taken, and the the number of terms, with standing in each marked on a scale of 100. Hence, each diploma will have just so much value as the student shall have given it, by a more or less thorough mastery of his studies.

COUNTY SUPERINTENDENTS' CERTIFICATES.

To prevent pecuniary loss to those living at a distance, who are not prepared to enter the University, but might come, hoping to pass the examinations for admission, the following arrangement has been made:

County Superintendents of Schools will be furnished with questions and instructions for the examination of candidates, and those who pass creditably will, when they present the Superintendent's certificate to that effect, be admitted to the Preliminary Classes. They will pay their fees but their Matriculation Papers may be withheld until they shall have passed the regular examinations of their first term.

Applicants not personally known to a Superintendent must present to him introductory letters, and satisfy him as to their moral character. The examinations in the studies of the preliminary year will be made at the University.

DORMITORIES AND BOARD.

There are in the several University Buildings about one hundred private rooms, which are rented to the students who first apply. Each room is of ample size for two students, and is without furniture, as it is thought best that the students shall provide their own.

There are many boarding houses near the University, where either table board, or board and rooms can be obtained, with the advantages of the family circle. Boarding clubs are also formed by the students, by which the cost of meals may be reduced to \$2.25 per week. Many students prefer to prepare their own meals, and thus reduce expenses still farther.

Coal is purchased at wholesale, and furnished to the students at cost.

For estimates of annual expenses, see page 62.

The Young Mens' Christian Association, of the University, have volunteered to aid new students in procuring for themselves rooms and boarding places, and also in giving any information required. For the first few days of the term the Association will occupy a convenient room in the Main Building, where students can obtain assistance and, if desired, be directed to places where board is offered.

The Young Mens' Christian Association hold devotional meetings every Wednesday evening and Sunday morning; Business meeting the second Wednesday evening of each month. All meetings in the Association's rooms, in the Dormitory.

LADIES' BOARDING HALL, OR STUDENTS' HOME.

Until a proper University building can be thoroughly refitted and devoted to the use of lady students, and to the School of Domestic Science and Art, young ladies may find suitable accommodations and care at the Hall, which has been opened near the University. This Home can furnish about thirty rooms suitable for two students each—twelve on first floor, twelve on second floor, and six on third floor. The following prices are for rooms on the second floor. Rooms on the first floor will be from ten to fifteen per cent. higher, and rooms on

third floor will be forty per cent. lower. Where a student desires room and furniture alone for herself, eighty per cent. will be added for the room and furniture. Tea and Coffee are extra. If ladies do not claim all of the rooms, gentlemen can have rooms in one wing of the building. Gentlemen who room elsewhere are admitted to the tables. Prices are as follows; monthly in advance for food only, per week, \$2.50. For food with unfurnished rooms \$2.90. For food and room with wardrobe, bedstead, table, washstand, stove and two chairs, \$3.30. Food and room furnished with bed and bedding, plain carpet, window curtains, looking-glass, wash bowl, pitcher and towels, \$3.75. All rooms to be neatly cared for by the occupants. All articles broken to be paid for or replaced, and all rooms to be open for inspection, and supervision of the Steward and Matron.

LABOR.

Labor is not compulsory, but is furnished as far as possible to all who desire it. It is classified into Educational and Remunerative labor.

Educational Labor is designed as practical instruction, and constitutes a part of the course in several schools. Students are credited with their proficiency in it as in other studies. Nothing is paid for it.

Remunerative Labor is prosecuted for its products, and students are paid what their work is worth. Those desiring employment must join the *Labor Classes*, which labor from two to four hours a day. The maximum rate paid for farm, garden and shop labor is *ten cents*, and for that about the buildings and ornamental grounds, *eight cents per hour*. Efficient students, who desire to earn more money, can often obtain work for extra hours; or they may be allowed to work by the piece or job, and thus, by diligence or skill, secure more.

Some students, who have the requisite skill, industry and economy, pay their entire expenses by their labor; but, in general, young men cannot count upon doing this at first, without a capital to begin with, either of skill, or of money to serve them till a degree of skill is acquired. With this, however, and with a judicious use of time during vacations, many students have been able to meet their entire expenses.

UNIVERSITY UNIFORMS.

Under the authority of the acts of incorporation, the Trustees have prescribed that all the male students, after their first term, shall wear the University uniform. The University cap is to be worn from the first. This uniform consists of a suit of cadet grey mixed cloth, of the same color and quality as that worn at West Point, and manufactured by the same establishment. Students can procure them ready-made on their arrival here. The University cap is of dark blue cloth, and is ornamented in front with the initials I. I. U., surrounded by a silver wreath. Students will always wear their uniforms on parade, but in their rooms and at recitations may wear other clothing.

STUDENTS' GOVERNMENT.

For several years an experiment has been in progress, in self government of the Students of the University. By permission of the

Faculty, the General Assembly of the entire body of Students was organized, and a constitution adopted providing for the election of a President, Vice President, Secretary, and Marshal; for a Senate of twenty-one members, a court consisting of a Chief Justice and two Associate Judges. Under this Constitution, laws are enacted by the Senate, which become valid only when approved by the Regent of the University. All offences against these laws are tried before the Students' Court and punished by fines according to the class of the offence. Cases which require the severer penalties of suspension or expulsion from the University are referred to the Faculty. Students refusing to pay the fines imposed by the Students' government are suspended from University privileges. The government has thus far rendered important aid in maintaining good order in the dormitories and grounds, in preserving public property, in preventing the visiting of saloons, and in other matters requiring the intervention of authority.

EXPENSES.

THE TUITION IS FREE in all the University Classes.

THE MARTRICULATION FEE entitles the Student to membership in the University until he completes his Studies, and must be paid before he enters. Amount.... \$10 00

THE TERM FEE for Incidental Expenses is, per Student..... 5 00

Room Rent in a University Dormitory, each Student per Term. 4 00

Each Student in the Chemical and Physical Laboratories, and in the Draughting and Engineering Classes, is required to make a deposit varying from 50 cents to \$8, to pay for chemicals used and for any breakages or damages.

ALL BILLS due the University *must be paid, and the receipt of the Treasurer shown to the Regent before the Student can enter the Classes.*

The following are the estimated Maximum and Minimum Annual Expenses, exclusive of books and clothing, of a residence of thirty-six weeks at the University:

	MIN.	MAX.
Term Fees and Room Rent for each Student.....	\$ 27 00	\$27 00
Table Board in Boarding Houses and Clubs... ..	72 00	144 00
Fuel and Light.....	10 00	15 00
Washing, at 75 cent per dozen.....	13 50	27 00

Total Annual Amount.....	\$122 50	\$213 00
Board and Room in Private Houses, per week.....	\$ 4 00	\$ 6 00

FEEs IN THE PRELIMINARY YEAR.

Tuition, per Term.....	\$	10
Incidental Fee, per Term,.....	\$	5

STUDENTS' FUNDS.

The Business Agent will receive on deposit any funds parents may desire to intrust to him to meet the expenses of their sons. No

greater error can be committed than to send boys from home with large amounts of spending money, without the authoritative care of some prudent friend. Half the dissipation in Colleges springs from excessive allowanees of money. Students have little real need for money beyond that required for fees, board bills and books.

CALENDAR FOR 1876.

Baccalaureate Address in University Chapel,	- - - - -	June 4.
Third Term Examinations commence,	- - - - -	June 2.
Senior Class Examinations,	- - - - -	May 29.
Class Day	- - - - -	June 5.
Society Addresses,	- - - - -	June 6.
Commencement Day, Wednesday,	- - - - -	June 7.

Vacation of fourteen weeks.

Examinations for Admission, Tuesday,	- - - - -	September 12.
First or Fall Term begins, Tuesday,	- - - - -	September 12.
First Term Examinations begin	- - - - -	December 19.
Closing of the First Term,	- - - - -	December 22.

Vacation of two weeks.

FOR 1877.

Examinations for Admission to Advanced Classes,	- - - - -	January 2.
Opening of the Second or Winter Term, Tuesday,	- - - - -	January 2.
Anniversary Day,	- - - - -	March 11.
Second Term Examinations begin,	- - - - -	March 19.
Second Term closes, Tuesday,	- - - - -	March 20.
Third or Spring Term begins, Tuesday,	- - - - -	March 20.
Third Term Examinations commence	- - - - -	June 1.
Baccalaureate Sermon in University Chapel,	- - - - -	June 3.
Class Day,	- - - - -	June 4.
Society Addresses,	- - - - -	June 5.
Commencement, Wednesday,	- - - - -	June 6.

Vacation of fourteen weeks.

TESTIMONIALS.

RESOLUTION OF STATE GRANGE OF PATRONS OF HUSBANDRY,
AT ANNUAL MEETING, DEC. 17, 1875.

Resolved, That our visit to the State Industrial University was replete with instruction and enjoyment. That to the regent, professors and students we extend our warmest thanks for their cordial politeness and the readiness and patience with which they answered our inquiries. That we take pleasure in assuring them that our faith in the practical value of the institution has been greatly increased by our visit, and that we can but hope that it will redound to the mutual benefit of the University and the agriculture and agriculturists of our beloved State; and that to each and all who have contributed to our happiness, comfort, and instruction, we return our heartfelt thanks.

EXTRACT FROM REPORT OF COMMITTEE OF STATE GRANGE.

"We would also call your attention to the subject of educating the sons and daughters of the farmers, and that this education should be such as would prepare them to better fill their stations in life, and to this end we would recommend the Industrial University, of Illinois, as one of the institutions deserving our patronage."

LETTER FROM PUBLIC OFFICERS.

TO J. M. GREGORY, *Dear Sir:*—In our visit to the Illinois Industrial University we were struck with surprise at the unexpected extent and grandeur of the Institution, and at the amount and value of the means of instruction—the Library, Cabinets, and apparatus—already gathered there. We were especially gratified with the sound and practical character of the instruction given in the several departments, and with the evidence afforded by the students in the Shops, in the Chemical and Physical Laboratories, and in the several Draughting Rooms, of the excellence of the education they are receiving. We wished heartily that all the citizens of our State could come and see for themselves the magnificence of the University which the care of Congress and of the State Legislature, has founded for the young men and women of Illinois; and especially for the promotion of the great industrial interests of our State. We would earnestly suggest to you and the Trustees, the importance of a more thorough and extensive advertisement of the University to the people, and particularly to the young men and women of the State. The public ought to know its real character and value. If they understood it and could once visit and see it for themselves, we believe your numbers would speedily be increased to the full capacity of the splendid and spacious buildings of the University. Wishing to see this bounty of Congress and of the State enjoyed by as many as possible, and the usefulness of the University in that way largely increased for the benefit of our great industries and of the industrial classes, we tender you our good wishes for the still greater prosperity of our State Industrial University.

JEFFERSON RAINY,
H. A. MILLS,
J. C. SHELDON,

W. B. HUNDLEY,
CHAS. D. HODGES,
C. B. STEELE,

Committee of the Senate.

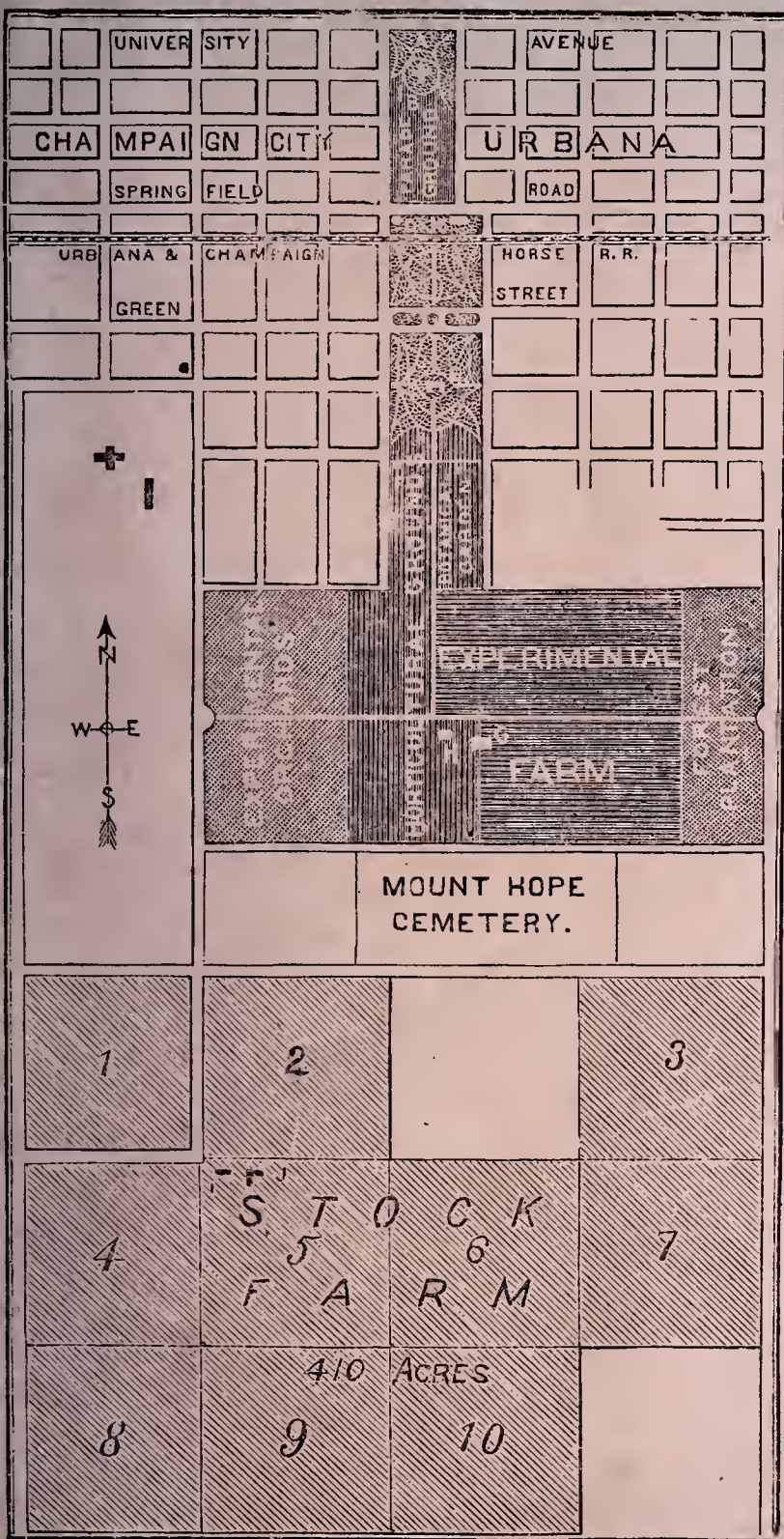
A. J. THOMPSON,
JOHN HISE,
JOHN GORDON,
GEO. BENSON,
ISAAC RICE,

A. E. STEWART,
J. T. BROWNING,
A. B. BARRETT,
W. M. PHILLIPS,

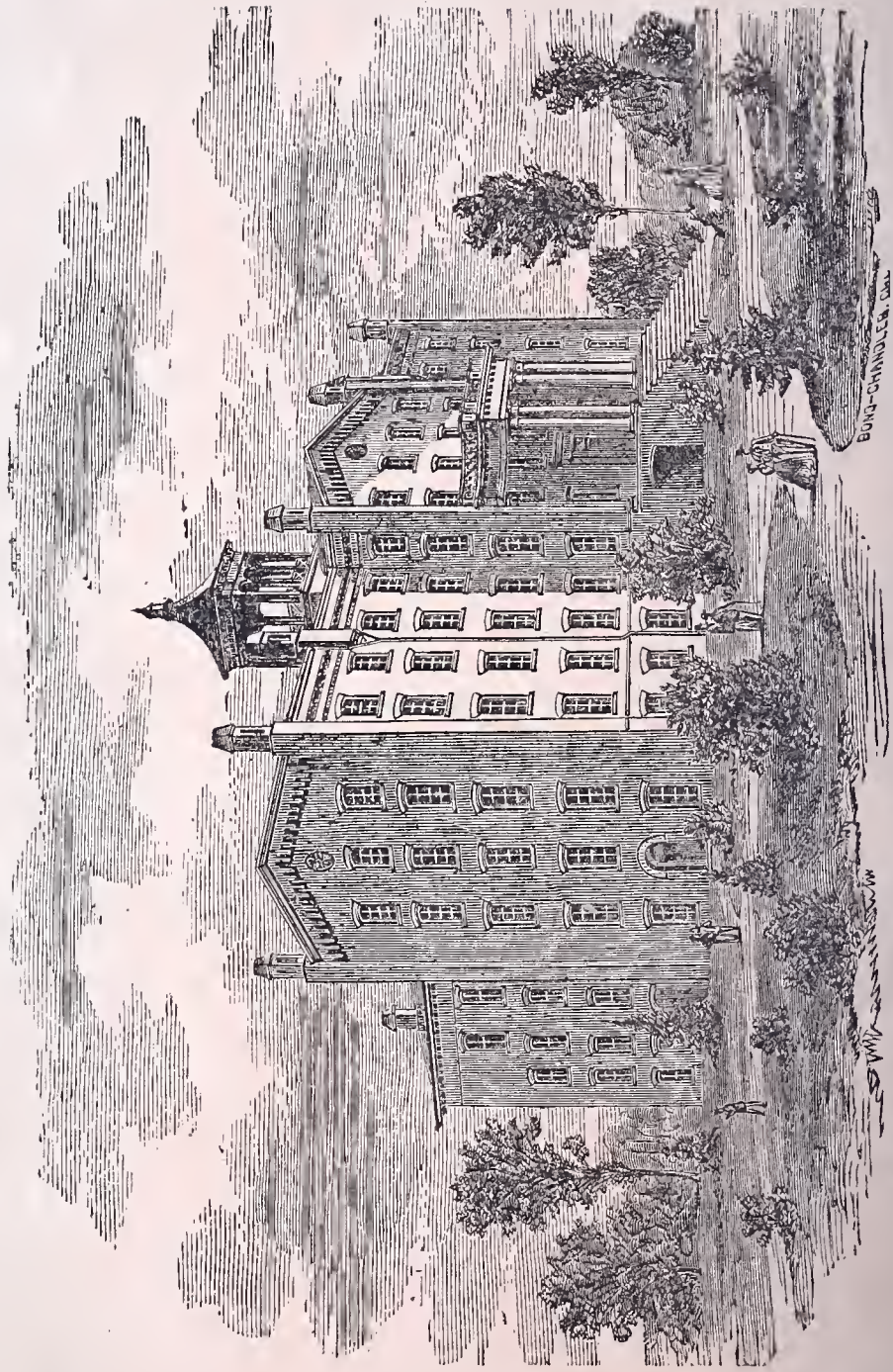
Committee of the House.

S. M. ETTER,

Supt. of Public Instruction.



MAP OF UNIVERSITY GROUNDS.



MAIN DORMITORY AND CHEMICAL LABORATORIES.